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STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

In the matter of:

2022 Integrated Energy Policy) Docket No. 22-IEPR-02
Report Update (2022 IEPR Update)
)
) RE: California
_____) Planning Library

IEPR COMMISSIONER WORKSHOP
CALIFORNIA PLANNING LIBRARY

IN-PERSON AND REMOTE VIA ZOOM
WARREN-ALQUIST STATE ENERGY BUILDING
ROSENFELD HEARING ROOM
1516 NINTH STREET
SACRAMENTO, CA 95814

WEDNESDAY, APRIL 27, 2022

1:00 P.M.

Reported by:

Martha Nelson

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INDEX

	PAGE
Introduction	5
Heather Raitt, California Energy Commission	
Opening Remarks	7
Siva Gunda, Vice Chair and Lead Commissioner for 2022 IEPR Update	
1. Background, Concept & Implementation Plan for California Planning Library	10
A. Hilary Poore, CEC	
B. Kristen Widdifield, CEC	
Discussion between Commissioners and Presenters	
2. Panel Discussion with Frequent Data Users	28
Moderator: Erik Lyon, CEC	
A. Delphine Hou, CAISO	
B. Patrick Young, CPUC	
C. Eduardo Martinez, Southern California Edison	
D. Andrew Mills, California Community Choice Association	
E. Kate Kelly, Defenders of Wildlife	
Discussion between Commissioners and Presenters	
Questions from Attendees to Panelists, Amanda Poletti to moderate	
Public Comments	112
Closing Remarks and Adjourn	118

1 Hardcopies of the meeting schedule are
2 available for in-person attendees. And for your
3 review, we have binders of all the materials
4 available at the entrance to the hearing room.
5 And if you want your own copy, you can just see
6 me or Denise Costa and she can get you a copy.

7 So today the Energy Commission staff will
8 be making a presentation. And then we're going
9 to have a panel discussion about the California
10 Planning Library. And attendees may participate
11 in a few different ways. There are opportunities
12 to ask questions of presenters. We'll reserve a
13 few minutes at the end of the panels to take some
14 questions. And we may not have time to submit --
15 to respond to all questions but we will do what
16 we can.

17 And for those in the room that have a
18 question for a presenter, if you want to, we're
19 doing old-fashioned, we're going to ask you to
20 write your question on an index paper and then we
21 can take those.

22 And then for those who are participating
23 remotely via Zoom, you can just press that Q&A
24 feature to submit a question if you have one.

25 And then, alternatively, attendees can

1 make comments during the public comment period at
2 the end of the day. And so we'll be limiting
3 comments to three minutes or less per person.

4 And if you're in the room and you wanted
5 to make a comment, if you could just Rosemary
6 Avalos from the Public Advisor's Office? She'll
7 be here and she can help you with that. And when
8 it comes time for public comment, you can just go
9 to the microphone to speak.

10 And for those on Zoom, you can just use
11 the raise-hand function to let us know that you
12 want to comment.

13 And we also welcome written comments and
14 those are due on May 18th.

15 So with that, I am happy to turn it over
16 to Vice Chair Gunda. Thank you.

17 VICE CHAIR GUNDA: Thank you so much,
18 Heather. So I'm just going to start the meeting
19 today.

20 First of all, I want to thank the IEPR
21 Team, Heather, and your entire team, and our
22 Public Advisor's Office, Rosemary, thank you for
23 being here, as well as their IT teams who are all
24 essential to pulling off these workshops, so
25 thank you for all the work you do.

1 I also want to thank our fellow
2 Commissioners. I think we're going to have
3 Commissioner Vaccaro, who's going to join
4 shortly, but also for the Commissioners' input in
5 developing this idea around the Planning Library,
6 so just thanks to all of them for their work
7 behind the scenes.

8 So I want to thank the Energy Assessments
9 Division Team, particularly Heidi Javanbakht, who
10 I think is on Zoom, but Kristen, who is here in
11 person, as well as Hilary, thank you so much for
12 all your work.

13 And Amanda Poletti, who is the manager
14 for the data side, so, Amanda, thank you so much
15 for the fresh info that you go into looking at
16 data and all the work you're doing.

17 And, also, the Management Team, David
18 Erne and Alicia Gutierrez for all the support and
19 guidance.

20 Thanks, also, to my Advisor who is on the
21 call. Erik who is going to be helping with the
22 panel but, also, has been an important thought
23 leader in helping craft the data policy for the
24 state, especially for the CEC.

25 So looking forward to the presentations

1 today and kind of getting a sense of, you know,
2 what our team is thinking and getting input from
3 the broader public and moving this incredible
4 effort forward. We've been thinking about this
5 for almost three years and just super
6 appreciative that it's actually at a place where
7 we can daylight it today with everybody and get
8 your input and start moving forward.

9 As we start the conversation, just at a
10 (Indiscernible) set at a high level, I think this
11 importance is we are in this incredible
12 transitional moment in energy.

13 So as one of my former colleagues put it
14 in terms, so we're building -- we're rebuilding
15 an electricity system and energy system in
16 approximately ten years that we took, you know,
17 like 100 years to build before. So that's like
18 we're in this incredible moment of transition and
19 it is very important that we are all on the same
20 page on basic background information, whether it
21 be assumptions that we use, whether it's some of
22 the analysis that drives our policymaking.

23 So the vision for this work is really to
24 help CEC play its role around organizing data and
25 the work we do into a place that is easily

1 accessible and to formulate some common planning
2 assumptions, and then helps us move forward in
3 our discussions.

4 So another important part of the IEPR
5 this year is equity. And just, you know,
6 anything that we do this year, but now, always,
7 at CEC, we continue to think about how do we
8 incorporate the elements of equity and all the
9 work we do so that the planning level is also
10 serving the goal of how do we make this data
11 accessible and, you know, broadly integrable
12 those different points of view?

13 So with that, I will pass it to my
14 colleagues at CEC, Hilary and Kristen, to take on
15 the first presentation here.

16 Thanks.

17 MS. POORE: Thank you and good afternoon,
18 Vice Chair Gunda, and everyone joining in person
19 and remotely. Kristen and I are very pleased to
20 be presenting the concept for the California
21 Planning Library.

22 After we present the concept and get
23 feedback from our Commissioners, we will dive
24 into a panel discussion featuring a handful of
25 CEC data power users.

1 Next slide, please.

2 To start, I will provide background
3 information and context for the California
4 Planning Library.

5 The California Energy Commission serves
6 as the state's energy data repository and is home
7 to a variety of technical and subject matter
8 experts, including scientists, engineers,
9 researchers, and individuals who play a pivotal
10 role in collecting and analyzing data. The data
11 and analytical products coming from the CEC are
12 of great importance in informing state operations
13 and energy policies. And beyond the CEC, sister
14 agencies, like the CPUC, NGOs, utilities, and
15 myriad other stakeholders utilize our data and
16 data products.

17 Through data requests, we have
18 demonstrable evidence that a broader need and
19 demand for energy data and information from the
20 CEC exists. We estimate that the Energy
21 Assessments Division alone receives approximately
22 250 data requests annually.

23 Next slide, please.

24 Data transparency and public
25 accessibility are essential to the CEC. And data

1 and data access are key to an equitable energy
2 transition and to bringing clean, reliable, and
3 affordable energy to all Californians.

4 There is an ongoing effort to make our
5 data and analytical products accessible and
6 understandable and present them in modern ways.
7 Energy insights and equity indicators are
8 examples of a few new products developed as a
9 part of this effort.

10 If you are interested in these products,
11 we encourage you to visit Energy Insights on the
12 CEC webpage and participate in the 2022 IEPR
13 workshops where we will be seeking stakeholder
14 engagement and feedback as we refresh the equity
15 indicators tool.

16 Next slide, please.

17 In addition to collecting, cleaning, and
18 storing data, CEC's role as the state's energy
19 data repository includes four additional buckets
20 of work, these are access, organization,
21 exploration, and analysis.

22 Access speaks to the CEC's commitment to
23 making datasets available so that users can
24 access and download for energy and policy
25 analysis.

1 Data access is the CEC's most fundamental
2 data-related role, allowing policymakers and
3 other stakeholders to analyze data to meet their
4 needs.

5 Building on the data access role, the
6 CEC's next step in data integration is the
7 development of interactive data dashboards and
8 maps. These approachable interactive tools allow
9 users to explore, visualize, filter, and
10 ultimately better understand energy data.

11 Under the organization element, data
12 products will be grouped by topic in a way that
13 is intuitive to users, making data and data
14 products more easily discovered. The California
15 Planning Library, which we will speak more on a
16 few slides, is an excellent example of the CEC's
17 effort to reorganize and structure data and data
18 products to enhance the user's experience.

19 And finally, analysis. Under this bucket
20 of work the CEC will continue publishing expert
21 analysis on a range of energy policy trends and
22 topics for the public, policymakers, and industry
23 stakeholders in new, innovative ways that include
24 timely updates on emerging trends and other
25 important topics. Excuse me.

1 Next slide, please.

2 CEC analytical products are critical
3 tools for state agencies and energy system
4 stakeholders as they plan investments and make
5 legislative and regulatory decisions. In order
6 to meet the needs of the state, CEC's analytical
7 products are in a constant state of development
8 and evolution. Examples of burgeoning products
9 include the summer stack analysis, reliability
10 reports, and land use screens. These new
11 analytical products and data are vital to state
12 energy planning efforts but lack a proper home.

13 While the Energy Almanac posts
14 descriptive or historical data and analysis,
15 there is currently no place on the CEC website
16 that hosts supply and demand data and analytical
17 tools in an accessible, understandable, and
18 easily navigable way. And because the CEC is
19 always developing new products and many of those
20 products will need to be officially adopted for
21 use by other state agencies. The proposed
22 solution to this challenge is the California
23 Planning Library.

24 As part of the IEPR 2022 -- oh, excuse
25 me.

1 Next slide, please.

2 As a part of the IEPR 2022 Update, the
3 CEC will identify, consolidate, integrate, and
4 enhance the CEC's data and analytical products
5 into a California Planning Library. The Planning
6 Library will be an area within our public website
7 developed and maintained by CEC staff. It will
8 serve as a collection of resources that are
9 online and organized into a new area. Some of
10 the products that are prioritized for inclusion
11 land use screens, Energy Demand Forecasts and
12 scenarios, the California reliability outlook,
13 and summer stack analysis.

14 Next slide.

15 The California Planning Library would
16 provide a centralized location for stakeholders
17 and the public to find CEC's analytical products
18 and corresponding data. The Planning Library
19 will make data and analytical products easier to
20 find, allow us to identify opportunities to
21 modernize the way we are presenting data to the
22 public, showcase key takeaways and reports,
23 provide links for widely used reports, and help
24 support a process and avenue for adopting
25 important analytical products.

1 Next slide, please.

2 I'll now hand the mike over to Kristen,
3 who will dive deeper into the California Planning
4 Library details and logistics.

5 MS. WIDDIFIELD: Thanks, Hilary.

6 The 2020 IEPR Update Scoping Order was
7 the first step towards building the foundation
8 for the Planning Library. As of today, the CEC
9 has a dedicated team actively working on and
10 leading the development of milestones and next
11 steps. As part of our planning process and to
12 identify priorities for implementation, we will
13 utilize a phased approach to creating this new
14 platform within the CEC website.

15 The initial phase will include organizing
16 our existing datasets, deliverables, and work
17 products. Staff will work with state partners to
18 get feedback via avenues such as today's workshop
19 and we will review comments submitted.

20 We will also consult with in-house
21 technical experts to identify which products can
22 be easily placed or linked immediately.

23 Subsequent and ongoing phases will focus on the
24 modernization of data and analytical tools, as
25 well as the expansion of our initial product

1 list, incorporate -- and incorporating links to
2 data partners.

3 So while this will -- while we will not
4 be able to include all of the information right
5 away, this will be an ongoing process and we will
6 remain committed to enhancing and growing the
7 California Planning Library.

8 Next slide.

9 In an effort to ensure transparency,
10 increase accessibility, and communicate which
11 products and deliverables to expect and when, we
12 would like to incorporate some sort of time line
13 or calendaring system. This will allow us to
14 achieve several goals.

15 First, we will work on identifying what
16 we consider to be big planning deliverables. As
17 Hilary mentioned, the CEC is home to many
18 technical experts who conduct a wide variety of
19 analysis so, as a result, there are a great deal
20 of products generated. And like any
21 organization, the CEC has its own methodology for
22 nesting certain deliverables under certain
23 offices, units, and other buckets. The Planning
24 Library should help streamline some of those
25 clicks to help all data users find what they are

1 looking for more quickly and easily.

2 Next, we would like to highlight when
3 those big planning deliverables will be released
4 or updated. The CEC recognizes that our
5 technical experts have a good understanding of
6 how long it takes to obtain a dataset, clean it,
7 conduct their analysis, and ultimately generate
8 some findings of some sort, whether it be a white
9 paper, docketed report, or another form of a
10 deliverable. However, the CEC also recognizes
11 that details of these time lines are not well
12 known and vary from project to project, so it may
13 be challenging to know when to expect them to be
14 posted.

15 So as part of our California Library --
16 California Planning Library platform, we hope to
17 incorporate an anticipated release date for some
18 of those major big planning deliverables which
19 will be developed on a regular or a recurring
20 basis. An example of this could include the
21 California reliability outlook, which we
22 currently show as being released in the fall.

23 Finally, we would like to provide links
24 to those products which have been adopted. The
25 CEC is committed to working with state partners

1 to develop products that can inform the work that
2 is completed outside of this department

3 We also recognize that certain products
4 cannot be incorporated into external analysis
5 until they are adopted, so sharing and
6 highlighting the links to those work products
7 will assist with the effort to increase access
8 for all users. An example of this could include
9 linking to the California Energy Demand Forecast.

10 Next slide.

11 As we think about the intended audience
12 for the Planning Library, we certainly recognize
13 that there are a number of what we might call
14 power users out there or those who have a
15 heightened interest in the deliverables produced
16 by the CEC. In fact, we have invited several of
17 those stakeholders to be part of our panel
18 discussion today. And that input will begin to
19 inform the development of the Planning Library.
20 So thank you in advance for your contributions
21 today.

22 In addition, there are several forums
23 where regular interaction with state partners
24 occurs routinely, such as the Joint Agency
25 Steering Committee, Demand Analysis Working Group

1 meetings, and others.

2 Further, the CEC recognizes that there is
3 a tremendous amount of information and analysis
4 that is produced on a yearly basis. I know that
5 I, myself, am not a scientist, an engineer or an
6 economist. However, I'm a researcher, so it will
7 be important that the California Planning Library
8 is accessible and usable for all individuals and
9 groups who visit.

10 Next slide.

11 Okay, so we've talked a lot about the
12 background concept, purpose, and why we're going
13 to launch the California Planning Library. Now,
14 let's take a high-level look at our estimated
15 time lines for what we are calling Phase 1 of
16 this project, which will take us from where we
17 are at today to the end of the Calendar Year
18 2022.

19 So to start, here we are at the first
20 IEPR workshop. After today's meeting, we will
21 review all of the feedback received and we will
22 incorporate those thoughts into our project plan
23 to refine the scope, if needed. This will occur
24 between these last few days of April and into
25 next month, as well. During May, we also expect

1 to finalize our project plan which will include
2 making any adjustments to our proposed time line
3 and milestone expectations.

4 During the following months of June and
5 July, we will begin to engage and gather input
6 from CEC staff and technical expert on which
7 products they believe to be most relevant based
8 on communication and data requests from
9 stakeholders.

10 Once all of the products for inclusion
11 have been identified, we will determine whether
12 they can be added immediately as part of Phase 1
13 or if they will be part of a subsequent release.
14 This will take place in August.

15 Then starting in the fall, the chosen
16 products and deliverables for the initial launch
17 will be organized into a layout that makes sense
18 to data users. This will also be when we will
19 develop the new platform within the CEC website
20 internally.

21 And finally in December, we plan on
22 launching the California Planning Library for
23 users to begin accessing.

24 Although is it is not indicted on this
25 slide but as we have discussed previously,

1 ongoing and subsequent phases will include the
2 modernization of data and analytical tools, as
3 well as the expansion of our initial product
4 list, and incorporating links to state partners.

5 Next slide.

6 So this slide is going to highlight some
7 of the preliminary specific planning products
8 that the CEC has identified for likely immediate
9 inclusion. This means that we will provide
10 direct links to the deliverables associated with
11 each of these. So as you review this list, just
12 keep in mind that the proposed list is not
13 inclusive, exclusive or by any means a final
14 summary for Phase 1. However, it is a starting
15 point and will provide a foundation for everyone
16 here to react to with questions and comments.

17 And as you can see on the bottom, there
18 is a notation for products that are in the
19 pipeline, meaning we will be actively working on
20 integrating them. And at this time that includes
21 land use screens and SB 100 results.

22 Next slide.

23 So for members of the public and other
24 guests attending this meeting, in person or
25 remotely, we wanted to share some questions which

1 we would like you to consider as you think about
2 submitting comments and following up with project
3 staff more directly, and these include the
4 following.

5 So just broadly or CEC deliverables, what
6 products or datasets do you most frequently use?

7 Of the products you utilize, is there a
8 preferred format or geographic level of
9 granularity you would like to see?

10 How can we make products easier to find?

11 Are there ways to make them easier to
12 utilize?

13 Are there datasets or products missing?

14 And do you have questions about the
15 terminology that we've used?

16 As it relates specifically to land use
17 screens, how would you like to see this
18 information presented? And what features would
19 you like to see incorporated?

20 Next slide.

21 So on behalf of Hilary and myself, we
22 would like to thank everyone for attending,
23 specifically the Commissioners for the invaluable
24 feedback they will be providing as we move
25 forward on this project.

1 Next slide.

2 So lastly, here's contact information for
3 both Hilary and myself, as well as Erica Brand,
4 who we did not previously introduce, but we will
5 be working with her very closely on linking the
6 land use screen's components to the California
7 Planning Library. She was kind enough to share
8 her direct contact information for those who
9 would like to reach out to her on that.

10 Next slide.

11 So now we're going to -- now we're going
12 to transition to the -- oh, sorry, no. We're
13 good.

14 VICE CHAIR GUNDA: No, it's all good.
15 We're all kind of like figuring out how to do
16 this remotely and in person.

17 MS. WIDDIFIELD: Yeah.

18 VICE CHAIR GUNDA: I feel so lonely up
19 here. It's a pretty big dais.

20 So, anyway, so I think just want to thank
21 you both for that wonderful presentation. And I
22 think this effort is going to be such an
23 important transitional work for CEC that I cannot
24 overemphasize. With the work that Jason Harville
25 is leading on bringing in more data in terms of

1 the IMD information that we'll get and the more
2 and more granular information we're getting
3 across so many different domains, I think you're
4 just laying the ground for the future of doing
5 CEC's work, right, which is being the data
6 repository and really helping with common
7 planning assumptions and, more broadly, thinking
8 about the role of access, data access.

9 So I think it's just wonderful what
10 you're kicking off here. And I look forward to
11 the amazing work.

12 A couple of opportunities here. And I
13 don't know, I know Erica's not on the actual dais
14 here. But you know, Erica, if you want to
15 comment on the land use side a little bit on what
16 the Siting Team is thinking about in terms of the
17 land use and how that integrates into the broader
18 planning, especially on SB 100 which is a
19 transitional issue, it might be helpful?

20 MS. BRAND: Hi. Good afternoon,
21 everyone. My name is Erica Brand and I work in
22 the Siting, Transmission, and Environmental
23 Protection Division here at the CEC. And as
24 mentioned, I am one of the staff members working
25 on the land use screens.

1 And so for those who aren't familiar with
2 land use screens, they've been used for several
3 years by the California Energy Commission and the
4 California Public Utilities Commission in energy
5 system modeling. And essentially what it is, is
6 assembling together a set of spatial
7 environmental land use information that helps
8 inform the technical resource potential,
9 renewable resource potential that's used in
10 modeling.

11 So our team is taking the existing
12 screens, we are updating the information, and we
13 are working with other agencies to review, and
14 then coordinating with the team here to make that
15 information available as part of the Planning
16 Library.

17 VICE CHAIR GUNDA: Just to follow up on
18 that one, so the intent, ultimately, would be as
19 we go towards the SB 100 planning, those will be
20 adopted by the Commission, similar to how Hilary
21 and Kristen framed; right?

22 MS. BRAND: Yeah, that's correct. And
23 then the information will be used to inform the
24 SB 100 modeling moving forward.

25 VICE CHAIR GUNDA: Thank you.

1 MS. BRAND: Thank you.

2 VICE CHAIR GUNDA: Thanks for taking the
3 challenge.

4 So, Hilary, if you could just comment on,
5 Hilary or Kristen, on the equitable transition;
6 right?

7 So one of the things we've been trying to
8 underpin is the access as a way of equity, and
9 also improving that analysis to really be
10 meaningful questions, you know, answering
11 meaningful questions that are, you know, of
12 interest for environmental justice groups.

13 Is there anything else you want to add on
14 what else we can do to improve, you know, equity
15 as we think through this in a Planning Library?
16 Anything you want to add? You don't have to
17 but --

18 MS. POORE: I think you captured a lot of
19 it, that data access is vital to an equitable
20 transition. And I think this effort ties in
21 really nicely with like equity indicators and
22 like all -- or the effort to look at all of our
23 like work at the CEC through that equity lens.

24 VICE CHAIR GUNDA: Great. So I think in
25 the long term, again, I'm just thrilled of the

1 effort. I know we've been talking about this for
2 two or three years. And I also want to just
3 thank all the stakeholders that have reached out
4 to us in a variety of forms, you know, to like
5 really have us come to this realization that the
6 way we arrange the data, the kind of analysis we
7 do, and really giving it the Commission's
8 approval or adoption as a way to commonly use it
9 in important work.

10 Thank you for all your input up to now
11 and look forward to getting more of your input as
12 we formalize this process and move this project
13 forward at the Commission. Thank you.

14 With that we can hand it back to Heather.
15 Do you want to move to the second panel?

16 MS. RAITT: Sure. Thank you. Thank you
17 so much, Hilary and Kristen and Vice Chair Gunda.

18 And so we'll move on to Erik Lyon, who is
19 going to be moderating the panel. And so we have
20 a panel discussion from the users for our
21 California Planning Library.

22 So go ahead, Erik. Thanks.

23 MR. LYON: Hi. Yeah. Thank you,
24 Heather.

25 Welcome everyone. So I'd like to start

1 by inviting our panelists to join.

2 And as they're getting on video, I just
3 want to reiterate what the Vice Chair and Hilary
4 were just mentioning, that, you know, the
5 Planning Library is really critical to getting
6 the facts on the ground, you know, so that
7 California can sort of, you know, be coordinated
8 in its effort to, you know, make an energy
9 transition to clean zero-carbon sources, you
10 know, while keeping equity in the forefront.

11 And you know, we -- it's going to be
12 really difficult to do that without having, you
13 know, this sort of best, you know, best knowledge
14 of what's going on in California right now and
15 what's going to happen in the coming years, so I
16 just wanted to echo that sentiment.

17 And are our panelists able to join?
18 Sorry, I can't see. Yeah, I see everybody now.
19 Okay. Great.

20 So I will start by welcoming Delphine
21 Hou. Delphine is the Director of California
22 Regulatory Affairs at the California ISO. And so
23 welcome, Delphine.

24 MS. HOU: Thank you, Erik.

25 MR. LYON: Next we have Patrick Young,

1 Senior Regulatory Analyst at the CPUC's Energy
2 Resource Modeling Team, as well as Eileen Hlavka,
3 CPUC Senior Analyst. So both of them are coming
4 from the Energy Division at the CPUC.

5 We have Eduardo Martinez, the Modeling,
6 Forecasting, and Economic Analysis Senior Advisor
7 at Southern California Edison. And Andrew Mills,
8 the Principal Electricity System Modeler at the
9 California Community Choice Association, or
10 CalCCA. And Kate Kelly, who is the consultant
11 for Defenders of Wildlife.

12 MS. KELLY: Good afternoon.

13 MR. LYON: Welcome. Yeah. Thank you all
14 for joining us.

15 I want to start by just going around to
16 give three to five minutes each to introduce
17 yourselves. And just give us a sense of, first,
18 you know, what your organization is for those who
19 might not know, but also, you know, importantly,
20 how you use the data that will come from
21 California's Planning Library.

22 So to start, I'm going to turn it over to
23 Delphine.

24 MS. HOU: Great. Thank you so much,
25 Erik. I hope you can hear me loud and clear --

1 MR. LYON: I hear you.

2 MS. HOU: I want to hear on that first.

3 MR. LYON: Thank you.

4 MS. HOU: Fantastic. All right. Well,
5 I'm very excited to be here today.

6 First of all, thank you so much to the
7 Energy Commission, and Vice Chair Gunda and Erik
8 for inviting the CAISO here. This is actually,
9 kind of in our nerdy world, super exciting.

10 We all deal with so much data. And as
11 the independent system's grid operator, we have
12 not only data that we extensively coordinate and
13 use on the planning side but, also, a huge amount
14 of need for data on the operational side. So it,
15 really, it spans the spectrum of a lot of the
16 work that the CEC is heavily involved in and is
17 primary, everything from the forecast that comes
18 out to, you know, SB 100 work, to reliability
19 modeling, so much of the same that were in the
20 presentation prior.

21 So specifically about the data uses, I
22 want to talk a little bit about the planning
23 studies we do. So I think most people may know,
24 we have a transmission planning process every
25 year that does require a huge amount of data.

1 And we are coordinated to the Joint Agency
2 Steering Committee on the Demand Forecast, but
3 also working very closely with the Public
4 Utilities Commission.

5 And within that, it's not even just the
6 transmission planning process but there are so
7 many related planning processes, everything from
8 resource adequacy, looking at local capacity
9 needs, flexible capacity needs, long-term
10 studies, even the, you know, 20-year outlook that
11 we just did for the future of the CAISO
12 footprint. All of that is dependent on a lot of
13 work that the CEC produces.

14 But also, you know, in sort of the more
15 near-term time period, we also do a lot of, you
16 know, forecasting for the operational space,
17 looking at what's going on with summer, or even
18 nearer terms in terms of really understanding day
19 to day, you know, what are the resources?

20 Especially now, a new conversation that
21 we want to have is not only distributed energy
22 resources, like behind-the-meter PV, but sort of
23 the variety of it where we can have behind-the-
24 meter storage, of electric vehicles charging and
25 discharging to the grid and providing services.

1 So all of that requires a lot of
2 visibility about what is embedded in that
3 forecast, what is coming on in our systems, and
4 really working together. And, obviously, that's
5 not only very data intensive but that's also very
6 intensive in terms of how we collaborate and
7 communicate with each other. So this, again, a
8 very exciting process.

9 We also have a variety of ad hoc analyses
10 that we do to try to understand kind of up-and-
11 coming issues. You know, we were just having
12 some conversations earlier today about battery
13 storage and how that's, you know, coming up and
14 penetrating more and more and more systems. But
15 that also, you know, because of the limited
16 duration of storage at the moment, we really need
17 to pay attention to things like, you know, what
18 does the load shape look like? What is the
19 hourly granularity? What does that need?

20 So I think the first time the CEC -- and
21 you know, really absolutely very grateful to the
22 CEC for taking a stab at turning the annual
23 forecast into an hourly forecast. I think the
24 first time that came out there was just -- you
25 know, the Excel file blew up by like 50 times its

1 size.

2 So I think this is really critical, as we
3 all have more data, need more data, to have it
4 organized in a way that is easier for the end
5 users. But not only that but, also, to be very
6 clear about what the datasets are so that we can
7 track through and have that transparency for all
8 of our stakeholders and all of our processes.

9 So again, we really appreciate this from
10 everything that we do from the planning to the
11 operational space, but also to interact and be
12 able to communicate with other agencies across
13 the state, our stakeholders, and even back to, on
14 the federal side, the Federal Energy Regulatory
15 Commission. This is all absolutely critical to
16 us, so thank you so much for having us. And
17 really appreciate this effort.

18 MR. LYON: All right. Thank you,
19 Delphine. I think that those are good segues to
20 some of our follow-up questions, so we'll circle
21 back to those.

22 Next, I'll turn it over to Patrick Young
23 and Eileen Hlavka. I don't know if you want to
24 go separately or if you just want to sort of jump
25 in together but I'll let the PUC go next.

1 MR. YOUNG: Thank you, everyone. I'm
2 kind of -- this is Patrick Young, Regulatory
3 Analyst at the CPUC's Energy Division, the Energy
4 Resource Modeling Team. I'm going to give a
5 little overview of myself and my team's work.
6 Then I'll turn it over to Eileen to add a little
7 more color for the gas data usage side.

8 I'm kind of glad that Delphine went first
9 and gave like the really overall view of
10 everything, all the analysis that we've done in
11 the past few years and the coordination that our
12 different agencies have done. That pretty much
13 covered a lot of what I might be expected to say
14 but Delphine said much more eloquently.

15 I'm going to, instead, sort of take it
16 down from the sky-high overall view down to
17 specifics that I do in my day-to-day work. My
18 team's overall responsibility is to gather,
19 analyze, and manage data related to systemwide
20 electric and gas infrastructure reliability and
21 operations. So that kind of establishes the
22 scope of what we do day in and day out.

23 We use data to develop and run models of
24 electric and gas systems to, primarily, assess
25 systemwide reliability now and in the future.

1 We use this information to inform CPUC
2 proceedings. The main ones we currently inform
3 are the Integrated Resource Planning proceeding,
4 and also the Aliso Canyon Order instituting
5 investigation. I hope I got that acronym right.
6 And the information is generally used to plan
7 infrastructure, changes, and procurement that
8 needs to occur in the coming years to meet state
9 policy goals.

10 To get a little bit more specific about
11 the modeling that our team does, we do electric
12 system production cost modeling, as well as
13 capacity expansion modeling. And for those that
14 are not super familiar, I'll just give a one-
15 sentence description of each.

16 Production cost modeling mainly is
17 focused on looking at the generation units we
18 have on the system, and the Electric Demand
19 Forecast, and a whole bunch of other information
20 that goes into operating that fleet of generating
21 units and looks on an hourly basis and sees if we
22 can operate the grid with the generating units we
23 have now plus what's forecasted to come on in the
24 future, and whether that is able to operate under
25 future weather and demand conditions, which is

1 where the CEC comes in.

2 Capacity expansion modeling is related
3 but it's actually trying to build out the optimal
4 fleet of resources into the future, whereas a
5 production cost model just looks at a single year
6 and you have to already determine what your fleet
7 is.

8 So that's kind of the distinction between
9 the two models.

10 The fundamental input to these models is
11 the IEPR California Energy Demand Forecast, as
12 well as related data products, such as the
13 Natural Gas Fuel Price Forecast and GHG Price
14 Forecast.

15 So that's kind of an overview of, really down
16 in the details, what we're doing in the trenches
17 of putting together these models and some of the
18 fundamental inputs to these models.

19 We've done a lot of work with CAISO and
20 the Energy Commission over the years so that
21 we're all sort of, you know, working together and
22 not using different datasets in our models and
23 then trying to compare our answers. It doesn't
24 make sense.

25 So as Delphine mentioned to the Joint

1 Agency Steering Committee process, we've really
2 made a lot of progress in the past few years of,
3 you know, who's got data development
4 responsibilities, making sure we're all using the
5 same vintage and set of data and we understand
6 what it means, so that when we use them in our
7 models we each can produce answers that we can
8 then compare to each other and make sure we're
9 all on the same page.

10 And finally, I'll touch on the land use
11 screening information, since that is one of your
12 emerging efforts, and that is a very important
13 data product that the CPUC and the CAISO use,
14 particularly in the aspect of capacity expansion
15 modeling, because we want to figure out like
16 where are the resources of the future going to be
17 built and how are we going to make sure we have
18 the infrastructure to make those things happen?

19 I guess I'll turn it over to Eileen now
20 if she wants to introduce herself and speak about
21 the gas infrastructure-related data that she
22 uses.

23 VICE CHAIR GUNDA: Perfect.

24 MS. HLAVKA: Thanks, Pat. All right.

25 Yes. Thank you, Patrick.

1 And I'm Eileen Hlavka and I work on the
2 gas planning and reliability side, so we use a
3 wide variety of data and forecasts, especially
4 the IEPR, and other ad hoc products, as well.

5 We're really, in the areas that I work
6 on, focused on maintaining the safety and the
7 reliability of the natural gas system and the
8 infrastructure, as well as thinking about how
9 that gas system might change over the years to
10 serve the goals that California has set for
11 itself, so that can include the Aliso Canyon
12 proceeding that Patrick mentioned, there's an
13 open proceeding on what's the long-term future of
14 the gas system, so there's a lot of open
15 questions there where kind of the more data that
16 we can throw at it and the more forecasts we can
17 throw at it the better.

18 I would note, there's no gas side
19 equivalent to the IRP process. So we're just,
20 you know, kind of doing it through other
21 processes, looking at reliability and using
22 what's out there.

23 One other note is that, on the gas side,
24 the utilities put together a California Gas
25 Report, so we also use that. That has somewhat

1 analogous, in some ways, information that -- or
2 forecasts of what's the future demand, future
3 supply expectations. So those are some of the
4 ways that we think about that on the gas side.

5 And I will pass it back to our host.

6 Thank you.

7 MR. LYON: Okay. Thank you, Eileen. I
8 appreciate that.

9 So next up is Eduardo.

10 MR. MARTINEZ: Good afternoon. You guys
11 can hear me okay; right?

12 MR. LYON: I can. Thank you.

13 MR. MARTINEZ: Yes. So as you mentioned,
14 I'm the Senior Analytical Forecaster at Southern
15 California Edison, so one of the major IOUs
16 within the state. I guess we have a special
17 relationship with the IEPR. In addition to being
18 heavy users of the IEPR Forecast, as I mentioned,
19 we also provide inputs, obviously, every two
20 years.

21 With that said, we do have a really
22 strong relationship with CEC staff within the
23 IEPR process, and even without the IEPR process,
24 so we really value that relationship, especially
25 with the folks that we deal with in Sacramento on

1 a regular basis.

2 In regards to how we use the products, so
3 as I mentioned, we provide the inputs. But the
4 IEPR Forecasts obviously have a lot of
5 significance for us. It provides us a very
6 useful benchmark when we do our own forecasts of
7 load, and also from a planning process. But it
8 also helps us, too, in that when we do our own
9 CAISO-wide modeling for price modeling, it
10 provides us a very good benchmark as to what the
11 forecasts are for the other LLCs within our tact
12 and planning area, and also within the rest of
13 the state.

14 In emerging areas, especially in areas of
15 building modification, that provides us a very
16 useful insight for us, especially for the hourly
17 forecast and the shapes, as some of the other
18 speakers have talked about.

19 So that relationship, basically, is that
20 we do do our own forecasts but the IEPR Forecasts
21 that are produced are invaluable to us, but also
22 having the access to the staff to be able to
23 explain to us what goes into the IEPR Forecast is
24 very useful for us.

25 In the past, we did applaud the effort

1 from about two years ago from the CEC staff for
2 the transportation electrification. That was
3 sort of the tableau-based prototype that they had
4 come up with. We applauded that effort and we
5 would very much like to see something like that.

6 Actually, something as a comparison that
7 we've talked about is actually with the Energy
8 Information Administration, EIA, data is with
9 their Annual Energy Outlook. And as most people
10 know, they make their data from their forecasts
11 available on a very easy searchable format
12 online. I know we're kind of sort of in the
13 planning process right now. But I think
14 something as user friendly as that would have a
15 lot of value add to that. I, myself, use that on
16 an annual basis, especially want to get
17 efficiency forecasts for like say overhead
18 lighting, some sort of air conditioning, I have
19 to have it bookmarked because that's really
20 simple for me to kind of go there.

21 So I think with this Planning Library, I
22 think it would be really -- I think that would be
23 a good benchmark for the CEC, for those users to
24 have something as useful as the EIA's on product
25 is there.

1 There.

2 MR. LYON: Awesome. Thank you. That
3 sounds like a great idea. But, of course, I will
4 not commit to anything on behalf of the CEC.

5 MR. MARTINEZ: Okay.

6 MR. LYON: I'll get in trouble for that
7 later but I love the idea.

8 Next up is Andrew. And I believe Andrew
9 also has a slide to share.

10 MR. MILLS: Hello. Good afternoon and
11 thanks to the CEC to provide input on this
12 Planning Library.

13 I'm a Principal Electricity System
14 Modeler at the California Community Choice
15 Association. And my role there is to use the
16 PLEXOS production cost model to inform integrated
17 resource planning.

18 CalCCA is a is a member organization for
19 most of the CCAs in California. And in
20 aggregate, CCAs are anticipated to be about a
21 third of the CPUC's jurisdictional load in 2022,
22 or about a quarter of the California load
23 altogether. And we did reach out to some of the
24 member -- CCA members to get input personally on
25 these remarks. And I'll briefly summarize some

1 of the comments on this slide and then touch on
2 them more in the panel discussion.

3 So first off, we really support the idea
4 of developing a central repository or at least
5 something that's like a table of links to all of
6 the data. This will really improve our ability
7 to find and access and then effectively work with
8 the data.

9 One of the key data products that we work
10 with, as others have mentioned, is the IEPR Load
11 Forecast, but not just the forecast itself but,
12 also, the constituent parts of that are the
13 really important parts. So really trying to
14 understand the buildup process to get to these
15 hourly load modifiers is really important for
16 these shapes that are included in the forecast.
17 These modifiers include things like the energy
18 efficiency, behind-the-meter PV and storage, and
19 the effects of climate change.

20 The members would also benefit from
21 increase in the granularity of these forecasts
22 and the load modifiers to cover their respective
23 regions.

24 We also want to better understand the
25 affect on weather on the load forecasts. We see

1 that load variation with weather is important for
2 assessing reliability or tell events, like a 1-
3 in-10 or 1-in-30-year weather patterns can really
4 have an outsized impact. And so having more
5 information on that available and sort of the way
6 that that's treated in some of these forecasts
7 can be really helpful.

8 Finally, the CalCCA is building on the
9 CEC's IEPR PLEXOS model to analyze Integrated
10 Resource Plans in the CPUC's IRP proceeding. And
11 so we support the continued maintenance and
12 public releases of this database. It provides a
13 really nice common starting point for a lot of
14 these analyses and, also, a useful public
15 benchmark for it.

16 And so I'll have some more comments as we
17 go through the discussion but I'll end with that.
18 Thanks again.

19 MR. LYON: Okay. Thank you, Andrew.

20 And last but certainly not least, Kate
21 Kelly.

22 MS. KELLY: Hello. Thank you so much.
23 And thank you to the Commission staff for putting
24 together this workshop. And this is an important
25 topic and something that Defenders of Wildlife

1 has been thinking about quite a bit.

2 I'm Kate Kelly. I'm a consultant for
3 Defenders of Wildlife. And I work at the
4 intersection of land use planning and energy
5 policy.

6 At Defenders, we work towards the
7 protection of wildlife, ecosystems, and
8 landscapes while supporting the timely
9 development of renewable energy resources in
10 California. Achieving a low-carbon energy future
11 is critical for California, we all know that, for
12 our economy, our communities, and the
13 environment. Achieving this future and how we
14 achieve it is critical to protecting California's
15 diverse natural and working landscapes.

16 Ultimately, energy planning is land use
17 planning. And appreciate the Chair's
18 acknowledgment of that in his opening comments,
19 and Ms. Brand's explanation of land use screens.

20 We use CEC's data in analytical products,
21 along with those from the public, the ISO, the
22 Natural Resources Agency, the Governor's Office
23 Planning and Research, and a host of others to
24 better understand the implications of energy and
25 transmission development on our natural and

1 working lands. We do this to identify
2 opportunities to achieve both California's energy
3 goals and the protection of our wildlife and
4 ecosystems. It's a lot of data sources to be
5 looking at and pulling from across the universe
6 of California energy planning.

7 Currently, planning for energy and
8 transmission is hampered by a lack of a
9 centralized and transparent user-friendly data
10 repository that includes datasets for IEPR,
11 busbar mapping, SB 100 implementation, the ISO's
12 20-Year Outlook, 30 by 30, water resources and
13 land retirement, and datasets coming from
14 California Natural Resources Agency, CalEPA, and
15 last but not least, wildfire planning.

16 So centralized planning library and
17 mapping tools that allow uniform analysis and
18 enable agencies and stakeholders to issue-spot on
19 energy policy and planning, and on potentially
20 generation storage and transmission projects, is
21 going to be essential for moving forward and
22 building this new transmission and generation
23 system in a matter of years versus decades or,
24 you know, a century.

25 So Defenders of Wildlife, we appreciate

1 this effort. We look forward to participating in
2 it and strongly support the creation of the
3 Planning Library. I'm looking forward to the
4 conversation today. And thank you, again, for
5 holding the workshop.

6 MR. LYON: All right. Thank you, Kate.

7 So we can dive into some slightly more
8 detailed questions now.

9 I think if it's okay with you, Kate, I'll
10 just put you right back on the spot and we'll go
11 in reverse order for the first question, just to
12 mix things up a little bit.

13 MS. KELLY: Okay.

14 MR. LYON: So can you start by telling
15 us, you know, what types of data in the Planning
16 Library, but maybe outside of the Planning
17 Library, what kind of data and analytical
18 products are most useful to your organization and
19 you rely most heavily on now?

20 MS. KELLY: You know, because energy
21 planning is land use planning, and land use
22 planning requires geospatial mapping and the
23 ability to understand in a three-dimensional
24 aspect where it all fits and where it intersects
25 with different resources and different needs, so

1 having robust geospatial mapping tools would be
2 essential. And having them, you know, housed in
3 one location so that we're not trying to, you
4 know, craft things and pull from a variety of
5 different locations.

6 Part of the barriers that we see as part
7 of that is trying to figure out even what data is
8 called necessarily. Because as, you know, an
9 ENGO, we are not energy planners by our first
10 initial nature and we recognize that that can be
11 a challenge. And we see that that can also be a
12 challenge for local government and other agencies
13 that are trying to figure out how to incorporate
14 this kind of information in their long-term
15 planning.

16 So having the geospatial tools, having
17 things like the interconnection queue mapped so
18 that we can look and see where connections are
19 being considered, if there's hotspots and how
20 that fits into other areas, it sort of ties
21 backwards and across to busbar mapping, being
22 able to do that from a local government
23 standpoint and from an environmental planning
24 standpoint so we can see what's really fitting
25 and working together.

1 So those are things that come to mind,
2 you know, quickly. And I know that others will
3 probably have quite a bit more to add to that.

4 MR. LYON: Sure. Yeah. Can we call in
5 Andrew next to chime in there?

6 MR. MILLS: Sure. Yeah. As I mentioned,
7 the IEPR Load Forecasts in general are the
8 primary product that we're using and, again, sort
9 of the constituent parts that go into that on the
10 load modifier. So these are things like energy
11 efficiency, electric vehicles, PV and behind-the-
12 meter storage, and things like that and the way
13 that they modify the shape are all really
14 important for planning.

15 And then one of the things, too, that's
16 been great for us, as I mentioned, is this CEC
17 IEPR PLEXOS model that has been made available to
18 us and that we're using that as our starting
19 point for our own modeling.

20 And one of the things that's really nice
21 about that is that it brings together a lot of
22 the data on the power system and a lot of that
23 pulls from the CEC internal dataset. So that has
24 these load forecasts for a variety of different
25 regions. It has all of the different thermal

1 generators in California, their performance and
2 emission rates from public data. You have
3 information about hydro energy and other
4 renewable generators, and then transmission line
5 readings. So I should also mention the gas price
6 forecasts, carbon price forecasts, are all in
7 there.

8 And really having all of this in a
9 central location where it's sort of a cohesive
10 dataset that's all related to one another is
11 extremely helpful for us. The one downside, of
12 course, is that that PLEXOS database requires
13 that you have a PLEXOS license to it. So trying
14 to emulate that, where you have all of that data
15 available in one place in a way that's easy to
16 manage the format of it and the relationships
17 between it, could be really nice to replicate
18 that in the Planning Library.

19 MR. LYON: Okay. Great. Yeah. Thank
20 you.

21 How about Eduardo?

22 MR. MARTINEZ: Sure. In terms of the
23 barrier, I think the other users probably have
24 the same experience, is that we tend to become
25 like sort of like the IEPR Forecast expert within

1 our organizations and that a lot of -- it can be
2 overwhelming if you're not dealing with the IEPR
3 Forecast on a regular basis.

4 So one good suggestion that we got when
5 we sort of brainstormed this internally before
6 this call was just sort of like a data dictionary
7 or, basically, like a 101 or like a read-me.

8 Another factor, too, is that because
9 sometimes the IEPR Forecasts aren't static,
10 there's an update, sometimes we've found that
11 some users will have a previous version that will
12 go into a very complex model. And we'll find
13 several months later, hey, that got updated. You
14 should have done -- maybe you should have like
15 have gone to the docket and try to find the most
16 recent one.

17 So that's why we're really excited about
18 that interface, to kind of make it easier for
19 non-expert users, like myself, who need to grab
20 the IEPR Forecast and have a good understand.
21 Like between the mid-mid forecast, energy
22 efficiency alone can sort of like be sort of
23 daunting for a novice user, per se.

24 So I think in terms of the barrier to
25 entry, I think that would be a very -- a lot of

1 value add, even for an experienced user, like
2 myself, but especially for someone else within
3 the company who has to go get -- grab and IEPR, a
4 piece of IEPR data, and have confidence that they
5 know exactly what they're using. And even
6 something like, you know, what level of line loss
7 are the figures reported? Because that's often a
8 question that we have to go back to Nick Fugate
9 and his team to ask like, hey, this particular
10 tab, like what level of line loss is it at?
11 So --

12 MR. LYON: Absolutely. Yeah. It seems
13 like a theme here that's coming out is sort of --
14 I mean, you mentioned data dictionary but also,
15 you know, that sort of relates to inputs and
16 assumptions, you know, what specifically do these
17 things mean, you know? Even if you have the
18 numbers, you know, how best to interpret them.
19 Awesome.

20 How about Patrick and Eileen? So the
21 first question, what types of data and analytical
22 products are most useful to you?

23 MR. YOUNG: Yeah. This is Patrick again.
24 And it sounded like some of the folks have
25 already started responding to some of the

1 barriers that they encountered but I'll --

2 MR. LYON: Go ahead.

3 MR. YOUNG: -- I'll just try to stick
4 with products that are useful. And you know, I
5 think folks like Andrew and Eduardo have already
6 kind of mentioned things that are of interest to
7 us, too, because I think we're all interested in
8 using, especially the Demand Forecast data, as
9 primary inputs to the energy modeling tools that
10 we use.

11 So to speak most generally, I think data
12 that is, you know, direct inputs to our models is
13 the most useful thing. And that requires some
14 level of coordination so that, you know, the
15 Energy Commission is not producing data that is
16 not that useable to the consumers of the data. I
17 think folks have already mentioned a lot of the
18 specifics of that.

19 So I'll just stop there.

20 MR. LYON: Yeah.

21 MS. HLAVKA: Yeah. I would just add, in
22 echoing some of what's already been said, and
23 it's exciting to hear the enthusiasm for looking
24 at weather variability as there's increasing
25 interactions between the gas and electric side.

1 And you know, those -- so that could really be
2 shifting going into the future. Gas, like
3 electricity, the system is built to serve peak
4 demand.

5 So peak-day demand forecasts and
6 scenarios and having those look at winter, as
7 well as summer, as really valuable, as well as,
8 of course, the IEPR and all its sectoral
9 granularity and elasticities and things, you
10 know? We value all those pieces and would
11 especially emphasize looking at what's happening
12 on peak days.

13 MR. LYON: Yeah. Absolutely. You know,
14 I think another thing that's coming out here is
15 sort of disaggregation. You know, I've heard
16 disaggregation by sector. Delphine mentioned,
17 you know, going to an 8760, you know, an hourly
18 model. I think Andrew asked for, you know, the
19 sort of disaggregated parts, the load modifiers
20 that go into the forecast, and even how weather,
21 you know, might be affecting the forecast or
22 those various load modifiers.

23 So I think, yeah, that's something we'll
24 take away, is how do we get this in all -- in the
25 right granularity for everybody's needs? That's

1 really great.

2 And, Delphine, with that, I'll pass it
3 back to you for this first question again or we
4 can take the first two questions, the types of
5 barriers and products that are most useful to
6 you.

7 MS. HOU: Great. Thank you, Erik.

8 Actually, I want to go back to the first
9 question and just note that I think each of the
10 panelists said something that definitely
11 resonates with me, so I'll kind of start
12 backwards --

13 MR. LYON: Okay.

14 MS. HOU: -- from the first order.

15 So Kate mentioned geospatial mapping
16 tools, mostly for land use from her perspective,
17 but I'll just jump onboard with that. Because
18 we, at the CAISO, you know, through the busbar
19 mapping that we have, that locational granularity
20 is absolutely critical to us because that will
21 highlight where there are constraints,
22 potentially, on the system from the transmission
23 side.

24 But also, as we're moving into the
25 operational space, that is also really critical

1 for us to understand, you know, what's going on
2 with the things that the CAISO doesn't have much
3 visibility to, which is, you know, a growing
4 behind-the-meter segment. So understanding
5 things like, you know, where are all the behind-
6 the-meter solar, where's all the behind-the-meter
7 storage, et cetera, that really impacts how we're
8 able to track in real time for our operational
9 needs cloud coverage, if there's smoke, if
10 there's wind. Even the concentration of load
11 impacts for building electrification, if that's
12 congregating around certain areas of the grid, do
13 we need to be more aware of that? Or are areas
14 of the grid much more active with behind-the-
15 meter storage than others?

16 We need to understand why the load is
17 changing beneath us so that we can position the
18 wholesale supply side to respond to that.
19 Because today there isn't -- you know, for
20 example, if we just take the simple example of
21 behind-the-meter PV, there isn't much more of a
22 response except that the sun shines, the system
23 generates, and then, you know, the load
24 disappears. But if a cloud comes over, then it's
25 no longer generating, and it's really up to the

1 wholesale side to produce electricity to serve
2 that existing load.

3 So we don't have control. We don't have
4 a direct tie. But really understanding what
5 resources are there and trying to put that into
6 our models and optimization will give us much
7 more confidence in our operational capabilities.
8 So I definitely agree with Kate on that.

9 Andrew, I just want to completely second
10 everything that you said about PLEXOS modeling.
11 The CAISO also uses PLEXOS modeling. We really
12 appreciate the transparency of the datasets that
13 the CEC puts out there because it's much easier
14 for us then to be able to compare and contrast
15 the modeling that's been done and to highlight
16 areas where, you know, maybe there is just a
17 mistake and we need to rectify that. So we think
18 that's a huge win for transparency. That's a
19 huge win for really getting everyone on the same
20 page so we can talk the same language.

21 And, yes, we you need a license to
22 request those but it's industry standard, so
23 we're hoping that this is something that more and
24 more people will get accustomed to.

25 Eduardo, yay for versioning control. We

1 often times, you know, we're struggling to get
2 some work done and so we're saying, oh, just give
3 me the last IEPR Forecast you have, not
4 realizing, well, in the docket there's been
5 update. We should have kind of checked the
6 docket again for a refresh.

7 So I think sometimes, just for our own
8 sanity, that versioning control is super helpful.
9 And then not having to go into each IEPR docket
10 but having a centralized repository, that would
11 actually streamline, save us some time, and
12 especially as Eduardo said, trying to kind of get
13 us, like people like me, nontechnical users, an
14 easier time into that.

15 I'll just also note that in addition to
16 having that centralized structure, for me, if
17 somehow we can have an awesome search function,
18 that would also be fantastic, but I'll leave that
19 for last on the -- and agree also with everything
20 that Eileen and Patrick said.

21 On the barrier side, I don't think CAISO,
22 you know, when we were thinking about this, there
23 wasn't -- we didn't identify any major barriers.
24 But maybe we're in a special situation because we
25 are in so many conversations with the CEC and the

1 CPUC, I think we're, you know, in that way in a
2 position where we see much less barriers. And I
3 think when do see need we're able to kind of
4 escalate that to the CEC in these good,
5 transparent public forums.

6 So I would say for us, I can't think of
7 anything that comes to mind on the barriers side
8 but appreciate it.

9 MR. LYON: Great. Thanks, Delphine.

10 And I know some of us have already, you
11 know, touched on barriers. You know, I'm
12 hearing, you know, just finding the data,
13 interpreting the data, you know, making sure we
14 have the latest copy of the data and the
15 forecast.

16 Would anyone else like to chime in about
17 any other barriers that they face accessing data
18 from, you know, IEPR or other data sources that
19 would be in the Planning Library?

20 MR. MARTINEZ: Sure, I can add,
21 especially on the efficiency side. There's a lot
22 of interest of being able to get down to the
23 climate zones or the building zones data that's
24 available. I think that would be a big value
25 add, if that granularity, that level of

1 granularity was added to the data library for us.

2 MR. LYON: Great. Thank you. Yeah.

3 Yeah. It sounds like geographical disaggregation
4 is a whole other level I didn't mention, so we'll
5 keep that in mind, as well.

6 MR. MILLS: And one other thing I wanted
7 to note just is, you know, after finding the data
8 and then using it once, it's also nice to make
9 sure that that data is going to have a fairly
10 stable format in the future so that if you have
11 some sort of process that's going to pull and
12 ingest that data so that you can use that to
13 update other products, it's helpful if that just
14 stays fairly stable. So kind of focusing on that
15 stability is also important.

16 MR. LYON: Yeah. That's a great point.
17 Yeah. I've been burned by issues like that on my
18 end before and it's very frustrating, so that's
19 really important.

20 So any --

21 MR. YOUNG: I'm going to add on to what
22 Andrew just said. I second, you know, the naming
23 conventions and file formats, making sure that
24 they're computer readable and the format doesn't
25 change over time. Because I'm sure a lot of us

1 are using code to ingest this data and we need to
2 make sure that the meaning of the data and the
3 location of the data in the column and row of the
4 file stays static.

5 And I'll cover a few of the other
6 barriers that I think some have already
7 mentioned. But if you'll bear with me, I'll just
8 repeat for emphasis.

9 MR. LYON: Please.

10 MR. YOUNG: You know, we've talked about
11 the right granularity. And, obviously, there's
12 different dimensions. There's the geography.
13 There's the time, you know, annual, monthly,
14 hourly. And then, you know, there's also the
15 stochastic element, as well, because weather
16 varies over time and there's a relationship
17 between generation output for wind and solar and
18 electric demand. These are all related to
19 weather.

20 And you know, one of -- this is already
21 being covered in the Joint Agency Steering
22 Committee process, but one of the things that the
23 CPUC is waiting for is a stochastic dataset.
24 Because, currently, the IEPR is output in a
25 single typical year format, so you have a single

1 forecast for each forecast year and that consists
2 of a single set of hourly shapes.

3 And we know the CEC is undergoing an
4 effort to develop this stochastic dataset that
5 includes a weather element. And it will be
6 fantastic when that is produced because the fact
7 that CPUC is having to produce its own stochastic
8 dataset is causing a bit of a headache currently
9 with the analyses that are happening because, you
10 know, the analysis that the CEC puts into its
11 Demand Forecast is not quite the same as what the
12 CPUC does. And so we deviate from each other,
13 even though we both come from the same starting
14 point of, you know, say an annual forecast that
15 starts with the same numbers.

16 MR. LYON: Yeah, that's great. That's
17 important.

18 MR. YOUNG: While I have the floor, I'll
19 just mention a couple of other things that are
20 kind of down in the weeds but at least important
21 for me.

22 You know, there's so many different data
23 products. And you know, over time, I've been
24 working at this for a while, and not all of the
25 workbooks that are posted are what CPUC and other

1 power users consume regularly. And it would be
2 nice if certain breakouts of the IEPR Demand
3 Forecast became official products that were
4 posted regularly, rather than having us to go and
5 make requests from the Demand Forecast Office
6 staff to produce this breakout of, you know,
7 behind-the-meter PV by forecast zone, or self-
8 generation forecast capacity and energy by
9 planning area, or what have you.

10 If these could all become official
11 products with documentation that explains the
12 relationships between all the data so that if we
13 crosscheck data and some of the granular data,
14 does it add up to the total for the wider
15 geography or timescale? And some of those --
16 some of the arithmetic to do that is not always
17 obvious because of certain shortcuts or
18 assumptions that CEC staff have made but the
19 power users don't know they've done that, and so
20 the arithmetic doesn't quite work out and we're
21 scratching our heads.

22 So those are all down in the weeds but,
23 nevertheless, one of the challenges of when
24 you're actually using all this data and trying to
25 make sure that it makes sense in your model.

1 MR. LYON: Yeah, absolutely. The weeds
2 can be very important for this stuff, absolutely.

3 Kate, I saw you had your hand up. Did
4 you still want to make a comment?

5 MS. KELLY: Sure. It's, actually, almost
6 a bridge between barriers and the next question
7 about how data is presented. And you know, it's
8 definitely a plus-one on data consistency. And I
9 would advocate for data, you know, having at
10 least a standard set of information that is
11 required for any type of generation, in
12 particular transmission, so that it's easily
13 identifiable across the Board.

14 You know, as an example, you know, there
15 are transmission -- or you know, substations that
16 have similar names that aren't anything to do
17 with where they're physically located, for
18 example, the Red Bluff Substation down in the
19 desert, that kind of thing. So having, you know,
20 standardized information that includes things
21 like geographic information where there's lats
22 and longs or/and also county location would be
23 great.

24 And then one thing I would offer as a
25 consideration is as we all have social security

1 numbers or some sort of taxpayer I.D. number,
2 resources could also have a cradle-to-grave
3 identification number that we allow it to be able
4 to track from the very first time it pops up,
5 either on a queue or in its, you know, getting
6 its land use approvals, all the way to
7 decommissioning, regardless of ownership, changes
8 of project name over time, that would allow
9 better tracking of the resource as we, you know,
10 pass through, you know, generations of folks that
11 are working on this issue.

12 MR. LYON: That's a great idea. Thank
13 you.

14 That seems like a good time to keep going
15 with this segue. But in terms of better ways to
16 present the data, I'll go ahead and open it up to
17 anyone who would like to speak to that. We can
18 make sure everyone gets a chance.

19 MR. MILLS: I'll just say that we have
20 heard that just sort of trying to track down data
21 and, you know, sort of navigate through dockets
22 and various things has been a challenge for
23 people. And just sort of, you know, one of the
24 things you want with data is to make it easy to
25 find and access so that it then becomes useful to

1 have that sort of ease of access. It's just hard
2 to become something that's regularly used by
3 people.

4 So that's the main thing. And really
5 support this general idea of the Planning Library
6 that helps all that.

7 MR. LYON: Great. Thank you.

8 Somebody else was trying to say
9 something?

10 MS. KELLY: Yeah. I'll pivot to another
11 data issue.

12 You know, currently, we focus so much on
13 transmission zones and those have no basis in
14 reality for those of us who work in the
15 geopolitical or ecoregional landscape. And so
16 having that type of information cross-referenced
17 through geopolitical/ecoregional areas would be
18 great. It would allow for, for example,
19 consistency with all the 30 by 30 planning that's
20 happening and the mapping that's going on through
21 Cal Nature.

22 It would allow for counties and councils
23 of government and other subregional areas to be
24 able to also participate in the planning for
25 energy and understand how it's fitting. So, for

1 example, if you have a transmission zone that
2 moves across both the Central Valley and the
3 coast range, you know, possibly out to the coast,
4 that's crossing a number of areas that aren't
5 consistent with that planning zone.

6 So I would suggest that looking at, as
7 part of the building of the geospatial mapping,
8 that we have it set up so that it can be applied
9 in an ecoregional and geopolitical range group
10 level, as well.

11 MR. LYON: Can you, yeah, talk to me a
12 little bit more about what those -- what that
13 means, ecoregional and geopolitical?

14 MS. KELLY: Sure. So at the very most
15 basic, geopolitical could be at the county
16 boundary level --

17 MR. LYON: Um

18 MS. KELLY: -- or the San Joaquin Council
19 government level. An ecoregional level would be
20 the San Joaquin Valley, the Antelope Valley, or
21 the Central Coast, North Coast, those sorts of
22 regional levels that have an ecosystem that is
23 consistent with each other. And then, finally, to
24 be able to bridge it into what's happening on the
25 marine spatial planning for offshore wind.

1 MR. LYON: Oh, yeah. Okay. Great.

2 In terms of better ways to present the
3 data, I've already heard sort of, you know, an
4 API or a standardized format, you know, similar
5 to how EIA does it.

6 Are there any other, you know, ideas on
7 how we can better present data for you?

8 MR. MILLS: No other ideas, just support
9 for that idea, the like EIA like API that, again,
10 if you have a standardized format and you're sort
11 of regularly ingesting in these things, then
12 being able to automate that with an API is just
13 sort of that next thing that makes it easier to
14 use again. So, yeah, the EIA, I think, is a good
15 model for that.

16 MR. LYON: Excellent. Thanks. And I
17 guess that's an application programming interface
18 for those not familiar.

19 But any last thoughts on better ways to
20 present the data before we move on?

21 Delphine?

22 MS. HOU: Oh, sorry, it wasn't -- I guess
23 this is somewhat tangential.

24 I was wondering, and this is just my lack
25 of knowledge on this part, so when something is

1 updated or maybe as you're thinking about the
2 Planning Library for the future, if something is
3 updated with a newer version, how would
4 stakeholders be notified of that? Is that
5 planning up for an email distribution? I think
6 on the CAISO site there's a couple of documents
7 that we have where you can prescribe to an RSFC
8 (phonetic), that if the document is updated with
9 a new version, it will ping -- you know, it will
10 ping you when that happens.

11 You know, but for us, that's a very
12 limited amount of documents and it's fairly
13 specific. But I would imagine, you know, quite a
14 lot of the Planning Library could be updated, and
15 so I don't know want to, you know, drive people
16 crazy with pinging all the time.

17 So maybe that's just something to think
18 about or it could just fall on the user to
19 constantly kind of check before they do some
20 analysis to make sure there isn't something newer
21 there.

22 But just thinking of that in case you --
23 that hasn't been brought up yet. Thanks.

24 MR. LYON: Yeah. That's a great
25 question. I don't have the answer for that. You

1 know, I see Heidi Javanbakht on the line.

2 I don't know if you're available to
3 unmute and speak to that at all or if anyone else
4 has a better idea?

5 MS. JAVANBAKHT: Yeah. I think -- this
6 is Heidi -- that's something that we'll have to
7 think through. The current process for the
8 adopted documents that are, you know, posted is
9 that there is an email sent out if you're on the
10 distribution list for that specific docket. But,
11 yeah, with some of these products on the Planning
12 Library potentially not being adopted, that's,
13 yeah, something we'd have to think through.

14 MR. LYON: Thank you, Heidi.

15 MS. JAVANBAKHT: Um-hmm.

16 MR. LYON: Great question, Delphine.

17 So we can go ahead and move on to
18 question number four. How can we make data and
19 information easier to find?

20 And you know, I'd really like you to
21 consider both data and information a little bit
22 separately; right? You know, there's the
23 datasets but, also, you know, how do we make the
24 key findings and takeaways from these datasets,
25 you know, easier to pull away?

1 MR. YOUNG: Hey, Erik, this is Patrick.
2 I wanted to backup just a little bit to that last
3 point that was mentioned about, you know,
4 notifying when you get the latest vintage of
5 data.

6 MR. LYON: Sure.

7 MR. YOUNG: And I think I would like to
8 point out that sometimes less is more because
9 when you develop a big model and you use lots of
10 different pieces of data, sometimes you want them
11 to have the same vintage of information because
12 there's relationships between the data where it
13 doesn't make sense to update one component but
14 not the other because then you're not -- you
15 might not be using the same underlying
16 assumptions. If something has changed recently
17 in a new dataset, it might be inconsistent with
18 the rest of the data you have in a model.

19 So I guess I just want to point that out.
20 And maybe some thought could go into how you
21 organize the Planning Library where, you know,
22 the vintaging and relationships that have -- or
23 datasets that have common sets of assumptions,
24 make sure that all those vintages are, you know,
25 sort of organize better so that we're not using

1 two sets of data that are kind of inconsistent
2 with each other.

3 Does that make sense?

4 MR. LYON: Yeah, it does. You know, it
5 makes me think of sort of how the Census
6 organizes their data where they have, you know,
7 obviously the big year -- or you know, the big
8 every-ten-year census, but then they also have
9 the American Community Survey that's done, I
10 think, every year or couple of years. And so
11 that's sort of a more limited dataset and so, you
12 know, you wouldn't necessarily use, you know, the
13 Census one year but then the Community Survey the
14 next.

15 You know, you'd sort of have to know,
16 this one's updated at a more regular interval,
17 you know, so it's going to have some things, you
18 know, more regularly, but it might just not have
19 other things, it might not be comparable to, you
20 know, the full census, things like that.

21 So maybe we do a big update of the whole
22 IEPR Forecast but maybe there's other products
23 that are like more, you know, more regularly
24 updated or, you know, more granular in some way.
25 I don't have the answer for that. I'm just

1 thinking about it.

2 But, yeah, does anyone else have any
3 thoughts about how to go about that?

4 MS. KELLY: This is Kate.

5 You know, the Energy Commission, through
6 its use of Data Basin, and particularly the
7 California Statewide Energy Gateway, and then the
8 Offshore Wind Energy Gateway, are good examples
9 of how that could work. Both of those gateways
10 include reports and documentation, as well as
11 provide a transparent mapping platform. And it's
12 super user friendly and it does not require folks
13 to have licensed software to build their own maps
14 and research their questions and analyze what
15 they're thinking about.

16 And the value of that tool, also, it
17 includes the live data tables so that users can
18 click on maps that they've generated or that have
19 been generated on the platform and view all the
20 underlying metadata, as well, and they can create
21 and save their maps and, you know, share them
22 with others, either publicly or privately.

23 So some centralized housing of the data
24 in something like Data Basin in one of the
25 platforms as a gateway could be an initial first

1 step, if not the final step, for how to host the
2 Planning Library.

3 MR. LYON: Excellent. Thank you, Kate.

4 Okay, so do we have any more thoughts on
5 how we can make data information easier to find?

6 You know, and I'll also, maybe as an
7 addition to this question, say I know you're all
8 power users. You're pretty well -- you know,
9 you're well adapted to finding our data. How
10 could we make it easier to find for people who,
11 you know, haven't had to jump through the hoops
12 before?

13 Andrew?

14 MR. MILLS: Well, I'm actually a fairly
15 new user to a lot of the CEC data. And so I
16 think it was mentioned earlier that the idea of
17 having some sort of data dictionary that would
18 accompany this could be really useful. And so
19 something that would allow you to -- you know,
20 you have the dataset that you're going to be
21 using for something, but then something that
22 really helps you with that interpretation that
23 goes along with it.

24 And if those things are linked to each
25 other and clearly laid out so that somebody who's

1 coming across that dataset and starting to use
2 and know where to find all of the information
3 about what goes into the dataset, what it means,
4 where they would go to find more about the
5 assumptions that are going into it could all be
6 really useful, so sort of that really canonical
7 (phonetic) data dictionary could really help out
8 with that.

9 MR. LYON: Absolutely.

10 I see Kate, and then Delphine.

11 MS. KELLY: Just real quickly, for the
12 data dictionary, sort of de-jargonized
13 keywords --

14 MR. LYON: Um-hmm.

15 MS. KELLY: -- so that someone can help
16 figure out what the technical term is by using a
17 layperson's term would be really helpful.

18 MR. LYON: Yeah, I think that's great.
19 You know, I think you both, you know, sometimes
20 you need that technical information for somebody
21 who's, you know, really in the weeds and needs to
22 know, you know, these really minute details. But
23 you also need somebody to be able to read it and,
24 you know, can gloss over that if it doesn't have
25 a really strong meaning to them.

1 Delphine?

2 MS. HOU: Thanks, Erik. I have a
3 slightly different angle on this. And this is
4 more of a question for the CEC, and also the
5 other users here.

6 I know a lot of information exists. And
7 sometimes what we end up doing is kind of
8 swimming through documents and finding it.

9 So, for example, in the actual IEPR,
10 which is, you know, a huge volume, there is all
11 sorts of very, very rich information that maybe
12 that is what we're asking for. That could be
13 what we're asking for overlaps a lot with what
14 we're asking for in terms of the data dictionary;
15 right? Because I like the IEPR because it is
16 written in pros, it's kind of conversational. It
17 kind of brings a new user into why this is being
18 developed, you know, how to actual use it, you
19 know, kind of context around that.

20 So I have a lot of sympathy for the CEC
21 because I don't want you all to produce a lot of
22 new data. I think it all exists. So I don't
23 know which comes first, is it the description the
24 website that is this consult data dictionary that
25 we're asking for or is it a redirect to the

1 actual IEPR document where that context is still
2 there?

3 So that's one way that I'm hoping to help
4 the CEC in kind of recycle a lot of the really
5 excellent work that's already been done and maybe
6 house it in a way that's much easier to update.
7 I don't know whether it's easier to update
8 documents or the website. But I do want to note
9 that a lot of this exists but maybe not in just
10 one location or, you know, obviously hasn't yet
11 migrated to this new Planning Library.

12 In addition to that, there's been, you
13 know, for us, you know, our, quote unquote,
14 "power users" where we are kind of digging very
15 deeply into the weeds. And so there I'll make a
16 pitch for the CAISO that, you know, often times,
17 you know, not just the data, but we're also
18 looking for the actual, you know, formula that,
19 you know, went into developing the data or how
20 that process flows. And sometimes we kind of
21 have to dig through the IEPR docket, through the
22 presentations, to get that documentation.
23 Because that is so deep in the weeds, it's not
24 going to, you know, show up in an IEPR report.

25 MR. LYON: Um-hmm.

1 MS. HOU: So I would say for maybe the
2 power users that want that gory, gory detail,
3 maybe that could be housed somewhere that's kind
4 of lifted out of the document -- out of the
5 docket presentations into some central location,
6 as well as for newer users that might need the
7 context and the background, and maybe just a link
8 that, you know, this is a new methodology, you
9 know, see X link for older stuff that we did, so
10 that they kind of are following the conversation.

11 Thank you.

12 MR. LYON: Yeah, a little more sort of
13 technical documentation, that's a great idea.
14 Okay.

15 Any other thoughts on making information
16 easier to find or we can move on to the next
17 question?

18 Okay, so what information gaps exist in
19 products developed by the CEC? And along with
20 this one, you know, what is it, you know, that
21 you really -- that you would really hope to do
22 that these information gaps are precluding you
23 from doing?

24 MR. MARTINEZ: Well, I can ask a
25 question. One thing that we are wondering --

1 MR. LYON: Please.

2 MR. MARTINEZ: -- because of the
3 confidentiality concerns, with the data that
4 would be in the data library would, obviously,
5 would be public; right? But that might limit
6 some of the LLC-specific forecasts of other
7 products that you guys develop internally but,
8 obviously, because of confidentiality concerns,
9 that you're not going to publish. So I think
10 having access to that somehow through a
11 confidential way would be value added for us.

12 MR. LYON: Yeah, sort of, yeah, behind-
13 the-scenes IEPR for, you know, the organizations
14 that are, you know, implementing and developing
15 the policy, that seems like it could be useful.

16 MS. HOU: Well, I'll second what Eduardo
17 said.

18 Oh, I'm sorry, Kate. You had your hand
19 raised.

20 MS. KELLY: Oh, no, I -- please go ahead.
21 I've been talking way too much as it is.

22 MS. HOU: I appreciate that.

23 So I'll second what Eduardo said. And
24 maybe the way that CAISO has done that is that we
25 do have a confidential portal where to access the

1 information it is required that you sign an NDA.
2 Part of it is because there are also critical
3 electricity information that needs to be
4 protected. So I don't know if the CEC runs into
5 data that falls into that category.

6 But to the extent that there are users,
7 maybe, that would need that level of information,
8 I, you know, do support having that additional
9 portal. And whatever protections the CEC needs
10 in terms of NDA or otherwise, I think that's
11 reasonable to request, as well. But that could
12 be helpful in terms of understanding that there
13 are those kind of layers of data and then what
14 needs to be done to access it.

15 Thank you.

16 MR. LYON: Thanks, Delphine. Yeah, I
17 think that's great.

18 Eileen?

19 MS. HLAVKA: Well, thanks. I think to
20 some extent this was covered a bit
21 (Indiscernible) but certainly would echo
22 enthusiasm for a greater geographic granularity,
23 whether that's by climate zone or geopolitical,
24 or whatever is possible, and including both on
25 the data side and for forecasting. And I think I

1 already spoke to enthusiasm for peak days. And I
2 appreciate that that is something, it looks like,
3 is coming up in the reliability items.

4 And I would note that those kinds of
5 things could be really, you know, useful, not
6 just to state agencies but to local planners and
7 generation planners, maybe they're looking at
8 microgrids or DERs, or researchers looking at the
9 whole picture, including in terms of gas and, you
10 know, what does that demand mean if it stays gas
11 or if it changes to electricity? And, of course,
12 we have, yes, enthusiasm for the peak day for
13 planning.

14 And one note that's a little more in the
15 weeds but may be easier to implement, there's the
16 existing electric and natural gas sales quarterly
17 reports that have an incredible amount of detail
18 that the utilities report, which is, of course,
19 as Eduardo kind of got at, that's confidential at
20 that level of detail.

21 But I wonder if that could be aggregated
22 up to various scales that would be
23 nonconfidential and, thus, give folks access to
24 data, like by industrial NAICS codes? You could
25 start to look at how different industries are

1 looking in different, and maybe that would be an
2 interesting product.

3 Thanks.

4 MR. LYON: Yeah. Yeah, so we're sort of
5 getting back to this question of aggregation
6 versus disaggregation, now with this other layer
7 of how do we protect privacy while we do that,
8 get as granularity as we can?

9 Andrew?

10 MR. MILLS: I'm just going to echo some
11 of those comments from Eileen, particularly on
12 that granularity. And it's really important to
13 also be thinking about that in terms of the
14 buildup of these hourly shapes for energy
15 efficiency, behind-the-meter resources, climate
16 change, all those things at that LSE level. And
17 these are just really important for that long-
18 term planning.

19 And in particular in the case, we've
20 had some newer CCAs form who don't have long-term
21 record of some of those shape modifiers in their
22 own data to be able to create those forecasts
23 accurately.

24 And so relying on the CEC to provide that
25 sort of information to them as that starting

1 point can be really important. And it would help
2 them to then create sort of alternative load
3 forecasts or understand what happens if
4 they're -- what they envision is going to be
5 happening is different from the CEC and sort of
6 start to create scenarios around that, and so on.
7 So really being able to understand that and bring
8 that down to the LSE level is important.

9 MR. LYON: Excellent. Thank you.

10 Yeah, Kate?

11 MS. KELLY: Great. Thank you.

12 Additional data that would be really
13 useful to have would include real-time generation
14 storage transmission project permitting status
15 that would include project location,
16 environmental, and land use permitting status
17 because we're doing a lot of planning for what's
18 going when, where and how.

19 But if I look at, for example, the work
20 that's coming out of SB 100 and then try to
21 crosswalk to the local government level to see
22 how many solar projects are being, you know,
23 proposed and permitted in Tulare County, that
24 data is not readily available.

25 MR. LYON: Um-hmm.

1 MS. KELLY: Some counties have very good
2 and up to date lists available. Other times it
3 requires looking at multiple locations and, you
4 know, still to track it down.

5 It's important to figure out what, you
6 know, we're thinking about of where we're
7 planning and what actually is in the permit
8 process and is looking at a five- to ten-year
9 time line to development. And it, you know, also
10 will give more information on how the
11 interconnection queue is functioning in
12 relationship to where projects are being proposed
13 and developed.

14 Setting aside and moving from permitting
15 status and shifting back over to land use and
16 environmental datasets that I know you're looking
17 at, including, you know, really is a cornerstone
18 to any of this mapping work is done, to be able
19 to concurrently meet California's goals under
20 both SB 100 and 30 by 30.

21 Some of the other datasets that could be
22 or, actually, should be included on there would
23 include Multi-Benefit Land Repurposing Program,
24 also known as SGMA, the Sustainable Groundwater
25 Management Act, where we're looking at retiring

1 close to a million acres, potentially, in the San
2 Joaquin Valley that may be suitable for
3 additional renewable energy development or
4 housing or other uses, and how do we incorporate
5 that into energy planning is going to be
6 implementation.

7 Statewide vegetation mapping, we have it
8 in some areas but has not been completed
9 statewide, and that will further identify
10 environmental considerations.

11 And then ripping off something that
12 someone said earlier, the -- you know, and
13 understanding, you know, load, having some
14 ability to look at a centralized mapping of
15 executed PPAs. I know there's confidentiality
16 issues associated with that. However, for
17 example, CCAs PPAs, now that's a mouthful, if you
18 want to dig through all of their agendas, you
19 will find that information. And I believe that
20 SB 1020 also proposes some disclosure of that
21 information, as well.

22 So I would look at and encourage
23 consideration of, you know, how these PPA
24 information can be included in that layer so that
25 we can begin to better understand what's been

1 proposed, where, when, and when it's coming
2 online, and look at it in a geographic scale.

3 MR. LYON: Great. Thank you. Yeah. And
4 those PPAs are power purchase agreements for our
5 fans following at home.

6 MS. KELLY: Yes.

7 MR. LYON: Yeah. That sounds like
8 there's a lot of, you know, rich and detailed
9 information sort of in those and in the permits.

10 Do we have any other data gaps that
11 anyone would like to mention? Okay. We can move
12 on.

13 This is our last formal question. And we
14 have a few other topics we could circle back to.
15 But you know, what could you do or wish you could
16 do with our data that, you know, you just
17 currently can't in the form that it is today?
18 And I'll leave the floor open again for this one
19 and see who wants to chime in.

20 MR. MILLS: Okay, I'll jump in. I'll
21 just, again, echo some comments that were made
22 earlier, I think, by Patrick and Eileen about the
23 importance of getting some information on weather
24 years. We're interested in really trying to
25 create a distribution of weather data for us in

1 the long-term modeling. And so we want to be
2 able to understand what sort of a 1-in-2 weather
3 year versus 1-in-10 or 1-in-30. And that then
4 sort of helps you understand the load forecast
5 but, again, also these modifiers. And we're
6 interested in this because these extremes are
7 really important for reliability planning. And
8 the LSEs need to know sort of what extremes are
9 plausible and then how frequently they're
10 expected to occur.

11 And I think this was mentioned earlier,
12 by having sort of a standard set of definitions
13 of what these extremes are, that allows for these
14 planners to all kind of be on the same page as to
15 what to expect and to make sure that everybody's
16 giving them proper weighting for it. So I
17 understand that that information exists in some
18 of these products but making that sort of part of
19 what's available to other users would be really
20 helpful and making that something that other
21 entities could be relying on at the same time
22 could really help out.

23 MR. LYON: Great. Yeah. Absolutely.

24 Anybody else have a wish list for data?

25 All right. Any other thoughts? Okay.

1 You know, so one thing that I think is,
2 you know, related to all of our data planning
3 efforts is this huge treasure trove of data
4 coming in from meters across the state, interval
5 meter data and it's measuring electric
6 consumption at an hourly level. And I'm curious
7 if anyone here has thoughts about, you know, how
8 we can be integrating that data into our
9 forecasting and our other data products?

10 MS. HOU: I have no good ideas about how
11 you can integrate that into your products but,
12 yes, we would be hugely supportive of it if you
13 can. I think that's kind of the challenge. And,
14 actually, in your last question I was trying not
15 to weigh in because, you know, it gets a little
16 bit unwieldy depending on how much data is put
17 out there.

18 And I do agree, so for example, you know,
19 we talked about geographic granularity, I
20 absolutely agree that we need more geographic
21 granularity. But I think what level that comes
22 in at is kind of a balance between, A, what's
23 available, what needs to be aggregated so that we
24 keep the confidentiality preserved, but also kind
25 of what would be most useful? Because, you know,

1 for meter data, we can ask for kind of an insane
2 amount of granularity, down to the minutes and
3 the seconds.

4 But I think maybe the conversation we
5 should have is to say, okay, where do we start
6 that's reasonable? And I would say today, given
7 where the forecast has gone, I would even say
8 hourly, I mean, that level, which is still a lot
9 of data. Even that level of data probably is
10 where we need to be because I think, especially
11 for the load modifiers, we do want to understand
12 how that's impacting the load shape. And we're
13 seeing that become a very dynamic issue there.

14 You know, the CAISO, we often say we
15 don't ever go anywhere without our duck. So we
16 have our duck curve, which is alive and well, but
17 I do also think it's a matter of time before we
18 have a large amount of storage penetration or
19 even a large amount of fuel substitution that
20 really starts to change that load shape. It's
21 just a matter of time.

22 So I think even if the data today on an
23 hourly basis isn't maybe being used to its
24 maximum potential, I think we're going to, very
25 quickly, even need to turn around and say, boy,

1 we wish historically we had tracked that so that
2 we understand where it's going in terms of
3 forecasting.

4 So I would say, yes, to the extent it's
5 possible, I absolutely agree. But, yeah, I
6 almost feel bad, or I guess I shouldn't feel bad.
7 I'm going to be a kid in a candy store, yes, we
8 want it all.

9 MR. LYON: Yeah, today you're allowed to
10 be a kid in a candy store.

11 MS. HOU: Okay.

12 MR. LYON: But, yeah, what I'm hearing
13 is, you know, just, you know, tracking how load
14 shapes are changing. You know, the really
15 obvious one, as you are alluding to, is solar and
16 how that changes load shapes. But you know, I
17 think we could use that same sort of philosophy
18 and apply that to heat pumps and all these other
19 end uses and storage and all the rest to sort of
20 see how, you know, California's load shape is
21 today and how it might change in the future as
22 more of these technologies are adopted.

23 Anyone else want to weigh in on this
24 authority question?

25 MR. MARTINEZ: Yeah. I think the load

1 shape brings up a pretty interesting question.
2 And, actually, a lot of this comes from
3 forecasting CCAs in our service territory because
4 they're not all equal; right? We have some CCAs
5 in warm-weather climates. We have some CCAs on
6 the coast, so I think having more data on the
7 load shapes. But if we can get it down to sort
8 of the subservice area, like those climate zones,
9 it sort of would help, I think, a lot out at the
10 CCAs themselves, as well, too -- and also for
11 folks how are on the call who sort of have like a
12 statewide CAISO-wide perspective and some of the
13 modeling that we do with our different groups.

14 MR. LYON: Okay. Great. Yeah. Thank
15 you.

16 Any other thoughts on this?

17 We'll be turning over to questions from
18 the dais and Q&A shortly.

19 But before I do that, I wanted to see if
20 we could just go through back -- go back through
21 all the panelists and just give me, you know, one
22 takeaway that the CEC should remember from today?
23 And I'm going to really challenge you to limit it
24 to one. You know, I always want to say, oh, I
25 have two or three. But what's one from each of

1 you?

2 Let's see. Delphine, would you mind
3 kicking us off or do you want another minute?

4 MS. HOU: Oh, that's going to be hard.
5 I'm going to put in a plug for what we were just
6 talking about. Because I think, you know, to
7 CEC's credit, there's an incredible amount of
8 excellent information there. I think the
9 Planning Library for the existing information is
10 going to make our lives a lot easier and more
11 organized, so I see that as an incremental
12 improvement from where we are.

13 But I'll focus on kind of the brave new
14 world of what we were just talking about, is
15 really getting down to, you know, even to the
16 metering level of understanding, you know, what's
17 coming at us for the future. So I'm going to
18 focus on that, which is to maybe put my eggs in
19 the future basket of looking forward to
20 understanding, you know, what are the load
21 modifiers of the future, what are they, and kind
22 of how they're going to be impacting our load?

23 So I'll end there with that. Thank you.

24 MR. LYON: Thanks, Delphine.

25 Patrick, can I kick it over to you, one

1 takeaway from today?

2 MR. YOUNG: Sure. I'm going to try to
3 sneak in, two, by saying that I hope someone
4 talks about granularity.

5 But I'm going to say definitions or data
6 dictionary --

7 MR. LYON: Um-hmm.

8 MR. YOUNG: -- if you will. I think it's
9 really key that we've got a ton of data, but just
10 because you grab the data, it's not always clear
11 what is the units, the scope, or the meaning of
12 the data. You know, someone mentioned like
13 losses. Like often times I grab a piece of data,
14 I'm like wait, is this with losses or not with
15 losses? I'm not sure. That's just a very
16 specific example but definitions, like present
17 the data but always include like enough
18 description so that you really know what the data
19 is.

20 MR. LYON: Perfect. If I can just tell a
21 quick anecdote?

22 I once just was banging my head against
23 the table with some temperature data from NOAA
24 and I couldn't figure out why it was so weird.
25 And it turns out it was in tenths of a degree

1 Celsius and I couldn't find it anywhere in the
2 documentation. Anyway, that's neither here nor
3 there.

4 Eileen, can you give me one takeaway from
5 today?

6 MS. HLAVKA: Maybe the peak, to look at
7 peak day, is what's happening on a peak day,
8 maybe a winter peak day, from a gas perspective?

9 MR. LYON: Perfect.

10 Eduardo?

11 MR. MARTINEZ: We've kind of talked about
12 this theme but I guess we can't just make it just
13 applicable for us power users. I think we have
14 to have accessibility for the novices within
15 organizations and just your regular Californian
16 who really wants to take a look at it. I think
17 if we make the data available, which in itself
18 will be really awesome, but if it's still hard to
19 find, I think that we're not going to live up to
20 the full potential. I mean, so I think we have
21 to keep in mind the non-power users and so that
22 they feel comfortable using it.

23 MR. LYON: Absolutely. Thank you. Yeah.
24 I really appreciate you mentioning that. Yeah,
25 there's a very, you know, large, diverse group of

1 people who could make a lot of good use out of
2 this data, so thank you.

3 How about Andrew?

4 MR. MILLS: Yeah. I really support
5 Eduardo's point there.

6 So a different one, and slightly
7 different from that, too, is this PLEXOS model,
8 which we haven't talked about too much. But,
9 again, that has served as sort of a way that the
10 CEC has organized a lot of its data so far. And
11 it's, just again, been hugely valuable. So I
12 really want to commend the CEC for making that
13 public.

14 And as far as this planning library goes,
15 if there can be a way that sort of stays
16 synchronized with that model, perhaps, and is a
17 vehicle for making this data information
18 available to other users like that, I think we'd
19 really support that, so thanks.

20 MR. LYON: Okay. Perfect.

21 And once again, last but certainly not
22 least, Kate.

23 MS. KELLY: Well, thank you. Thank you
24 again for such a great workshop today. Plus one
25 to everything that I've just heard from my

1 distinguished panel colleagues.

2 And then I will close with energy
3 planning is land use planning. So robust land
4 use and environmental datasets that have -- are
5 consistent, that allow for centralized and common
6 understanding of the knowledge and basic -- you
7 know, as Vice Chair Gunda opened this with is
8 basic, you know, background information so that
9 we're working from common assumptions.

10 MR. LYON: All right. Thank you. And so
11 thanks again to all of our panelists.

12 We're going to move now to Q&A from the
13 dais. And then I think we'll also have some time
14 for questions from attendees.

15 So I will turn it over to you, Vice Chair
16 Gunda.

17 VICE CHAIR GUNDA: Thank you, Erik. That
18 was really fabulous, really good, good
19 discussion. And, as usual, it's really wonderful
20 to see everybody on the Zoom. Hopefully, we can
21 see each other in person very soon. One thing
22 with the Zoom is it helps to look at all of you
23 in the same place and not turn my head around.

24 But anyway, so the other side, so from
25 the dais, it's a big dais with one person, so I'm

1 going to provide some questions. But I just want
2 to really kind of underscore the points that, you
3 know, I think Kate, you know, really closed it
4 off with there's just this -- you know, and I
5 think everybody mentioned this, the need for
6 consistency and need for consistent information
7 as we go through this rapid transition.

8 And I love, Kate, when you talk about
9 energy planning is land use planning, totally
10 agree with you. And I think more and more we're
11 talking about the intersection of energy and
12 water, as well as, you know, the land. So it's
13 kind of all coming together and we don't
14 necessarily touch on all of them comprehensively.

15 So that that goes to my first question,
16 you know just kind of taking this to the 30,000-
17 foot level, as we think through this transition,
18 and then we want to make this energy transition
19 as equitable as possible, and I think we're
20 starting with the assumption that, you know,
21 underpinned -- underpinning, you know, that
22 effort is really the need for good consistent
23 data and analysis; right?

24 So that's kind of -- so if you were to
25 just kind of articulate, you know, how do you see

1 the overarching policy goals of the state, when
2 we talk about clean reliable, affordable, you
3 know, and equitable energy to all; right? That's
4 the overall theme that we keep talking about, you
5 know? And we touched upon the need in
6 electricity planning, land use planning, today a
7 little bit. But as you take it up a notch, you
8 know, what do you think about the venue, the way
9 we move forward in ensuring that as we develop
10 these independent analysis, there is some sort of
11 a cohesiveness?

12 I mean CARB does that, you know, has the
13 overall purview on developing the Scoping Plan
14 you know? It comes every four years. And in
15 some ways the Scoping Plan is trying to get us to
16 a mitigated future; right? But as we move along
17 the pathways towards there, a lot of the
18 discussions happen more in a siloed fashion.

19 So I want to just ask on your thoughts,
20 like you know, how do you -- and how do you all
21 kind of think about, in your roles, about keeping
22 this consistency moving forward in these efforts?

23 And I think somebody has got to raise
24 their hand or I'll just call Delphine, who is my
25 friend.

1 So Delphine, calling on you.

2 MS. HOU: That's fine.

3 You know, I think a lot of it is
4 derivative of the transparency that we were all
5 talking about. You know, I think as Kate had
6 mentioned, some of the analysis that is being
7 done really requires that level of granularity
8 and understanding of where we're coming from.
9 And I think in our own world at the CAISO, you
10 know, a lot of what we do in our stakeholder
11 processes is try and be transparent. I think
12 that's where we can have those different voices
13 that kind of weigh in on those issues. But I
14 think that you can only do so effectively, you
15 know, if we have the right data and we're all
16 starting from the same starting point.

17 So you know, I appreciate that you know
18 CAISO is being called a power user. But I also
19 understand that that also means that there are
20 others that are, you know, trying to catch up and
21 there's a lot to be done, and a lot to consume.

22 So I think this effort in particular is
23 extremely helpful in having that, as Eduardo
24 stated, just, you know, kind of socializing all
25 the good work that's there, but also bringing

1 people up so that, you know, they can also bring
2 forward those different perspectives.

3 So I hope that helped.

4 MR. MILLS: Another comment on that --

5 VICE CHAIR GUNDA: Oh, Andrew, please.

6 MR. MILLS: -- is just, you know, in
7 general, I think one of the reasons why we're
8 interested in getting some of this information to
9 be more granular in terms of the breakdown of the
10 things that go into the load forecast is to think
11 about what are those various levers that you have
12 where there's different points of control on
13 things; right? So people kind of think of things
14 as like how can I participate in this transition
15 through electric vehicles or through behind-the-
16 meter PV and things like that?

17 And if we have that forecast broken down
18 into those different buckets like that, it's
19 easier to start those conversations around those
20 places and sort of say, well, here's the common
21 understanding of where we are with that right now
22 and what's your vision of how that's going to
23 change and how does that relate to these other
24 things? Then you can kind of take that forward
25 and say, well, what is the impact on, you know,

1 your overarching interests in terms of costs,
2 affordability, equity, you know, emissions and
3 things like that.

4 So I do think that that granularity helps
5 provide kind of a common starting point for a lot
6 of these conversations.

7 VICE CHAIR GUNDA: Great. And just a
8 couple other kind of thoughts if you all want to
9 comment on?

10 One of the things I was kind of thinking
11 through is, you know, as we develop this
12 effort -- you know, first of all, thank you for
13 generally -- you know, like I heard a lot of
14 support on this effort. And I think we kind of
15 put some value proposition on the table. You
16 know, Hilary did a fabulous job articulating the
17 challenges that we're trying to go after.

18 From your vantage point of view, if you
19 could articulate the value proposition from your
20 point of view? I think there is a, you know,
21 consensus on transparency of data, I guess, was
22 one that was articulated as the real value of
23 this. But anything, you know, like a single word
24 or add a sentence that you think is a real value
25 proposition of this, I think I want to kind of

1 put it as underpinning for this effort as we move
2 forward.

3 Kate, please. Go ahead, Kate.

4 MS. KELLY: I would go with informed
5 decision making, and not just at the Commission
6 level or at, you know, the higher levels of state
7 agencies but across the board.

8 And to, you know, Delphine's point, I
9 would add into power users to bring along its
10 local government and so the decision making is
11 informed at that level, as well.

12 VICE CHAIR GUNDA: Any other thoughts on
13 it from anybody else? I'm not seeing any.

14 I want to just ask one last question and
15 I'll pass it back to Heather, I believe, to -- or
16 Amanda for questions from the public.

17 So just on the, you know, way that you're
18 thinking internally in your organizations,
19 obviously, CEC is kind of trying to take the
20 challenges that are within the mandates we need
21 to do to kind of move forward a solution. How
22 are you, internally in your organizations,
23 dealing with your clients on how you make sure
24 that they have data?

25 And so I think it's a two-part question

1 on given where you are, you know, kind of located
2 in the ecosystem of the work we're all doing
3 together, you know, what are the challenges that
4 you are observing and how are you trying to
5 tackle them, so as a way for us to kind of learn
6 from you all?

7 And I think, Delphine, you've mentioned,
8 you know, the way CAISO organizes data and kind
9 of like active communication when things change.
10 So love to hear just, you know, at a high level,
11 what are the problem statements you, as an
12 organization, struggle with; right? I mean
13 because you're being hit with the same things and
14 how are you approaching it?

15 MR. MARTINEZ: So I can offer some --

16 MS. HOU: Oh, go ahead.

17 MR. MARTINEZ: I might be giving away
18 some secrets since some of my past users are
19 listening to this call. But what we try to do,
20 though, is that whenever we do an internal
21 forecast is that we structure sort of a handoff
22 meeting. Because we found, by trial and error
23 over the years, in that sometimes the data just
24 by itself without context doesn't help those
25 organizations, as well. So whenever we do, for

1 instance, for the RA adequacy Forecast that we
2 just did, we just updated our bundled forecast.
3 But sort of reached out to our procurement folks
4 when we do our fuel (indiscernible) power budget,
5 for instance.

6 So I think a lot of what we do is that we
7 try to -- a lot of it is just finding out how the
8 users -- what they need, then sort of catering
9 our presentation of that data to that so that we
10 can give them as much value add as possible. You
11 know, that's kind of tricky, obviously, for the
12 CEC statewide. But I think like a mindset like
13 that may help out.

14 VICE CHAIR GUNDA: Okay. Any other
15 thoughts?

16 MR. LYON: Kate, would you like to
17 respond to that?

18 MS. KELLY: (Audio feedback). Sure.
19 I'll go again with (indiscernible) decision
20 making (indiscernible). You know, I think we --

21 MR. LYON: It's a little fuzzy to me. Is
22 this all right?

23 MS. KELLY: Yeah, there's a ton of
24 feedback.

25 VICE CHAIR GUNDA: Yeah, your, Kate, your

1 voice is a little distorted. I think that the
2 voice just changed the sound.

3 MS. KELLY: (Indiscernible.)

4 VICE CHAIR GUNDA: If you want to mute
5 and unmute once, sometimes it helps.

6 MR. LYON: And mute the hearing room mic,
7 too, while she's talking.

8 MS. KELLY: That's actually probably the
9 issue. Thank you. (Indiscernible.)

10 MR. LYON: It's pretty difficult to
11 understand you. I'm not sure.

12 VICE CHAIR GUNDA: We are trying to
13 address that here. Maybe somebody else wants to
14 take a turn before Kate?

15 MR. LYON: Okay. Thanks.

16 VICE CHAIR GUNDA: Delphine, Andrew, do
17 you have any thoughts you might want to offer?

18 MS. HOU: I was going to -- this is
19 Delphine here. I was just going to respond to
20 your original point, and I agree with you, it's a
21 challenge for the CAISO, as well. And, in fact,
22 a lot of our data is really geared towards the
23 engineering teams of the various participants.
24 And that has been a struggle as we have more and
25 more and a variety of stakeholders in our

1 processes. So it's, you know, not a surprise
2 that our Transmission Plan has kind of grown in
3 scope and verbiage and background to, you know,
4 several hundred pages in trying to document that.

5 At least that is -- you know, at this
6 point, we are still kind of separated in our data
7 planning. So we have our main transmission
8 planning process that has, probably, the most
9 data coming out of it. And also, you know,
10 separate processes for our local and flex
11 capacity.

12 But I think all of it, I think the kind
13 of data that I think most folks are interested in
14 actually is derivative from the CEC. It's a lot
15 of the Demand Forecast because it is a foundation
16 of a lot of the analysis that we do.

17 So I think this process, actually, you
18 know, it's kind of like the tide that rises all
19 boats. Because, you know, what happens is if
20 that foundational assumption put into our process
21 is clear and well understood, then I think the
22 results that come out of our process are also,
23 you know, well understood and supported.

24 So we've always found that to be the
25 case, which is why, you know, we have such a

1 close working relationship with the CEC because
2 that resonates all throughout not only our
3 stakeholder process but when eventually, for
4 example, a project goes and goes back to the PUC
5 for siting and permitting. So there's a lot of
6 questions, even in that process which is, you
7 know, much further downstream, to go back and
8 look at things like the Demand Forecast that the
9 CEC produced, so I think this does help.

10 I know CAISO is a little bit more --
11 maybe our datasets are a little bit more on the
12 engineering side of life, so we do struggle with
13 that in trying to explain that to a more general
14 audience.

15 But at minimum I think the Demand
16 Forecast has been a huge area of focus, even in
17 our processes. And it always, always helps the
18 CAISO to be able to point to the CEC and say
19 here's a transparent process that the Forecast
20 went through and here's how you can get the data
21 and validate it and look at it yourself.

22 VICE CHAIR GUNDA: Kate, do you want to
23 try again?

24 MS. KELLY: Is this any better?

25 MR. LYON: That's much better. Thank

1 you.

2 MS. KELLY: Okay. Great. Thank you so
3 much. Sorry for the trouble there.

4 I'll just reiterate the transparent
5 decision making in that with the amount of energy
6 that we need to build and transmission that we
7 need to build, it all comes with conflict. And
8 so being able to analyze and explain how
9 decisions were made and the reasons for that
10 decision and how we sought as, you know,
11 collectively, all of us, to come up with a least-
12 conflict solution is important to be able to
13 explain to our community, as well as to each
14 other, in this process.

15 VICE CHAIR GUNDA: Awesome. Yeah, I just
16 wanted to hear, of course, the thundering
17 approval of everything you're saying, all of you.

18 So just, I want to, kind of before I pass
19 it on to Amanda, I just want to say thank you so
20 much for taking the time this afternoon, spending
21 this much time with us, thinking this through and
22 providing your insights. You know, I think this
23 is going to be an evolving project. We're all
24 going to work together more and more. You know,
25 just incredible gratitude.

1 I think a sentiment we often share with
2 each other, you know, none of us can do this
3 alone. And to the extent that, you know, we all,
4 you know, coordinate and do this together, I
5 think, you know, we have a chance of the success
6 in really making sure, you know, climate change
7 doesn't, you know, destroy, you know, the future
8 of our children. So hopefully, you know, we'll
9 do a good job. So thank you all for your time
10 again.

11 With that, I'll pass it on to Amanda for
12 the Q&A.

13 MS. POLETTI: Thank you, Vice Chair. We
14 didn't receive any comments from -- questions
15 from the audience, so I'm going to turn it back
16 over to Heather.

17 VICE CHAIR GUNDA: Great. Thank you,
18 Amanda.

19 So, Heather, it's back to you for --

20 MS. RAITT: Sure. Yeah. So, actually,
21 thank you. Thank you, again, Erik and to all our
22 panelists, just to echo thanks for being here and
23 for taking the time.

24 So we will, actually, just move on to
25 public comment. And so Rosemary Avalos from the

1 Public Advisor's Office is here to help us with
2 that.

3 So go ahead, RoseMary.

4 MS. AVALOS: Thank you, Heather. (Audio
5 feedback.) (Indiscernible.) Okay. Okay. I'm
6 going to go ahead and give you information now
7 for the public comment period.

8 MR. LYON: RoseMary, I believe now the
9 hearing mic and your personal mic are both muted,
10 so we can't hear right now.

11 MS. AVALOS: Thank you. Can you hear me
12 now?

13 MR. LYON: Yes, although we're getting a
14 bit of an echo in the background.

15 MS. AVALOS: Ah. Can you -- I'm going to
16 look into what the echo is. Just a moment,
17 please.

18 MR. LYON: I'm not sure if this is the
19 problem but, Heather, your mic looks unmuted.
20 That might be related.

21 (Pause)

22 MS. AVALOS: Thank you, audience, for
23 your patience. Can you hear me now?

24 MR. LYON: That sounds much better.
25 Thank you.

1 MS. AVALOS: Okay. You're welcome.

2 So moving on to public comment, comments
3 will be limited to three minutes per speaker.
4 And we'll go ahead and remind everyone that to
5 make a public comment, you'll want to raise the
6 raise-hand feature on your Zoom screen. And so
7 far, I don't see any raised hands.

8 Now if I call on you and you're using
9 your phone, I'll call on the last three numbers
10 of your phone number, so you'll want to go ahead
11 and state your name and any affiliation.

12 Okay, I'm going to go ahead. I see one
13 hand raised and that's with the phone number 385.
14 You may go ahead and make your comment. Please
15 state your name and affiliation if any.

16 MR. UHLER: Hello. This is Steve Uhler,
17 U-H-L-E-R. I find this a breath of fresh air to
18 hear this discussion today.

19 I'm a technologist with at least 40 years
20 of experience in handling data and manufacturing.
21 And when it comes to analytical products, I like
22 to go with off-the-shelf.

23 I would suggest looking into Gantt
24 charting and material resource planning systems.
25 These will be agnostic to whatever you want to

1 put into them. You don't have to worry about
2 leaving out some GIS information or whatever
3 else.

4 I've been kind of following the Energy
5 Commission's data systems and noting things like
6 QFER data, there's information missing and such,
7 and kind of wonder why QFER exists when there's
8 EIA data that is superior. But even the EIA data
9 has got some bad data in it, which kind of leads
10 me to believe that it's not really used. People
11 haven't picked up on that. A distribution
12 network listed in EIA data, it is in Kansas but
13 it's intended -- they show it being used in
14 California, stuff like that.

15 So in other words, if you were to take
16 some of the existing data systems, like EIA data
17 for electricity, and use it instead of using
18 these other QFER data systems -- the new Energy
19 Almanac actually is taking a step backwards by
20 losing what you call granularity as far as units
21 and stuff like that. So most everything that you
22 want to do here has been done by somebody before.

23 I would really like, as far as finding
24 data, somebody throw some of that meter -- that
25 smart meter data into this docket and I'll

1 process it, or at least give me a link to it.
2 I've been waiting for almost five years for the
3 Commission to give me such data, such as that.

4 But there's -- a lot of the things that
5 are being asked for, they've already been done,
6 and they already exist in off-the-shelf products.

7 Let's see. Easier to find, here's a
8 brief example about the difficulty about making
9 things easier to find.

10 The docket itself leads off with a domain
11 of year. It really should lead off with the
12 domain of subject. And I've tried to actually
13 put that into my titles of my documents and
14 somebody in the docket seems to want to remove
15 those. So you're probably going to find
16 resistance in people changing what they've been
17 doing for years unless you make a clean break.
18 And a great way to do that is to go to another
19 analytical system that's been used for years,
20 like Gantt. Gantt; he's a guy who, you know,
21 worked in steel a long time ago and does
22 scheduling and you could do scheduling down to
23 the second.

24 As far as hourly data, when it comes down
25 to things like what the stack is intended to do,

1 you really want to know what's going to happen in
2 the next 35 or 40 minutes and how you can steer
3 out of a reliability issue. There's no need to
4 look at history for that if you put in the Gantt
5 chart, put it in a material planning system and
6 run it.

7 Now as far as people being updated and
8 having their own special looks, those materials
9 can be written for product structure to handle
10 land planning and everything else. These systems
11 are out there. We won the second World War with
12 this. We brought people in who knew nothing
13 about building aircraft and built so many
14 aircraft that we're still using some of the parts
15 today.

16 So I haven't put in a written comment but
17 I'll go into more detail. And anybody has any
18 questions on any of this stuff?

19 Another area is, that I've recently
20 commented on, is load management MIDAS database.
21 A change in the structure there would also mean
22 that the rate database could also be used for the
23 planning database that you're probably, largely,
24 going to use in this Gantt format if you go to
25 it.

1 So, yeah, this is a breath of fresh air.
2 I'm hoping to not have to battle with -- every
3 time that an update to a database for a
4 generation happens, I have to go through and find
5 out that somebody's, you know, removed something
6 that didn't belong there or hasn't updated it in
7 ages.

8 So anyways, thanks. Thanks for the
9 opportunity to speak here today.

10 MS. AVALOS: And thank you for your
11 comment.

12 A reminder to folks attending on Zoom,
13 use the raise-hand feature to let us know you'd
14 like to comment.

15 Also, for those that are on the phone,
16 dial star nine to raise your hand.

17 I'll give a few seconds to see if we have
18 any raised hand.

19 All right, seeing that there are no
20 raised hands, I'll turn the mic over to you, Vice
21 Chair Gunda.

22 VICE CHAIR GUNDA: Thank you. Thank you,
23 RoseMary, for doing that.

24 Yeah, you know, I've already premised my
25 closing comment. I think I just want to express

1 gratitude to the entire CEC Team, the IEPR Team,
2 the EAD, as well as the IT Team trying to figure
3 out what's going on with the echo, everybody, for
4 just kind of moving this workshop forward.

5 And I think, you know, to Mr. Uhler's
6 comments, I think it's -- thank you for your
7 continued interest in what CEC does and
8 providing, you know, feedback on an ongoing
9 basis. I think, you know, the primary function,
10 one of the primary roles of CEC is to kind of
11 think through how best the data could be shared
12 and, you know, in a transparent and accurate way.
13 And I think, you know, hearing comments is always
14 helpful.

15 And I want to just give our team
16 internally here, who's been hearing a lot of
17 those comments and trying to really take a fresh
18 look at how best to do this and modernize that
19 effort, so keep the comments coming. Keep the
20 feedback coming so we'll take our best shot at
21 trying to lift to the spirit of what CEC is
22 hoping to do.

23 And with that, I pass it off back to
24 Heather. Thank you, everybody.

25 MS. RAITT: Thanks, Commissioner.

1 I'll just add that we welcome written
2 comments and that they're due May 18th. And
3 there's information posted in the website notice
4 about how to do that, and then on this slide that
5 we're sharing right now, but -- so I hope to hear
6 from people.

7 Thank you for the conversation today and
8 that's all I have unless you wanted to say
9 something else? Okay. Great.

10 Thanks, everybody. We'll see you for
11 our next workshop when -- to be scheduled.
12 Thanks.

13 (The workshop concluded at 3:13 p.m.)

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CERTIFICATE OF REPORTER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of July, 2022.



MARTHA L. NELSON, CERT**367

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I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.



June 8, 2022

MARTHA L. NELSON, CERT**367